ALIBABA CLOUD

Alibaba Cloud

Resource Orchestration Service

Resource Types

Document Version: 20220620

Alibaba Cloud

Legal disclaimer

Alibaba Cloud reminds you to carefully read and fully understand the terms and conditions of this legal disclaimer before you read or use this document. If you have read or used this document, it shall be deemed as your total acceptance of this legal disclaimer.

1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.

2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company or individual in any form or by any means without the prior written consent of Alibaba Cloud.

3. The content of this document may be changed because of product version upgrade, adjustment, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and an updated version of this document will be released through Alibaba Cloud-authorized channels from time to time. You should pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.

4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides this document based on the "status quo", "being defective", and "existing functions" of its products and services. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not take legal responsibility for any errors or lost profits incurred by any organization, company, or individual arising from download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, take responsibility for any indirect, consequential, punitive, contingent, special, or punitive damages, including lost profits arising from the use or trust in this document (even if Alibaba Cloud has been notified of the possibility of such a loss).

5. By law, all the contents in Alibaba Cloud documents, including but not limited to pictures, architecture design, page layout, and text description, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade secrets. No part of this document shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates.

6. Please directly contact Alibaba Cloud for any errors of this document.

Document conventions

Style	Description	Example
Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	**Danger:** Resetting will result in the loss of user configuration data.
Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	**Warning:** Restarting will cause business interruption. About 10 minutes are required to restart an instance.
Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	**Notice:** If the weight is set to 0, the server no longer receives new requests.
Note	A note indicates supplemental instructions, best practices, tips, and other content.	**Note:** You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click **Settings**> **Network**> **Set network type**.
Bold	Bold formatting is used for buttons , menus, page names, and other UI elements.	Click **OK**.
`Courier font`	Courier font is used for commands	Run the `cd /d C:/window` command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	This format is used for an optional value, where only one item can be selected.	`ipconfig [-all|-t]`
{} or {a|b}	This format is used for a required value, where only one item can be selected.	`switch {active|stand}`

Table of Contents

1.View resource types 20
2.ACM 21
2.1. ALIYUN::ACM::Configuration 21
2.2. ALIYUN::ACM::Namespace 26
3.ActionTrail 28
3.1. ALIYUN::ACTIONTRAIL::Trail 28
3.2. ALIYUN::ACTIONTRAIL::TrailLogging 33
4.ADB 35
5.ASM 36
5.1. ALIYUN::ASM::ServiceMesh 36
6.API Gateway 44
6.1. ALIYUN::ApiGateway::Api 44
6.2. ALIYUN::ApiGateway::App 62
6.3. ALIYUN::ApiGateway::Authorization 65
6.4. ALIYUN::ApiGateway::CustomDomain 67
6.5. ALIYUN::ApiGateway::Deployment 69
6.6. ALIYUN::ApiGateway::Group 70
6.7. ALIYUN::ApiGateway::LogConfig 74
6.8. ALIYUN::ApiGateway::PluginAttachment 77
6.9. ALIYUN::ApiGateway::Signature 79
6.10. ALIYUN::ApiGateway::SignatureBinding 80
6.11. ALIYUN::ApiGateway::StageConfig 81
6.12. ALIYUN::ApiGateway::TrafficControl 82
6.13. ALIYUN::ApiGateway::TrafficControlBinding 84
6.14. ALIYUN::ApiGateway::VpcAccessConfig 85
7.ARMS 87

7.1. ALIYUN::ARMS::AlertContact 87
7.2. ALIYUN::ARMS::AlertContactGroup 89
7.3. ALIYUN::ARMS::RetcodeApp 92
8.ALB 96
8.1. ALIYUN::ALB::BackendServerAttachment 96
8.2. ALIYUN::ALB::Listener 98
8.3. ALIYUN::ALB::LoadBalancer 107
8.4. ALIYUN::ALB::Rule 111
8.5. ALIYUN::ALB::ServerGroup 124
9.BrainIndustrial 131
9.1. ALIYUN::BrainIndustrial::PidOrganization 131
9.2. ALIYUN::BrainIndustrial::PidProject 133
10.BSS 137
10.1. ALIYUN::BSS::WaitOrder 137
10.2. ALIYUN::BSS::ResourcePackage 137
11.CAS 141
11.1. ALIYUN::CAS::Certificate 141
12.CDDC 143
12.1. ALIYUN::CDDC::DedicatedHost 143
12.2. ALIYUN::CDDC::DedicatedHostGroup 149
13.CDN 155
13.1. ALIYUN::CDN::Domain 155
13.2. ALIYUN::CDN::DomainConfig 159
14.CEN 161
14.1. ALIYUN::CEN::CenInstance 161
14.2. ALIYUN::CEN::CenInstanceAttachment 163
14.3. ALIYUN::CEN::CenBandwidthPackage 165
14.4. ALIYUN::CEN::CenBandwidthPackageAssociation 171

14.5. ALIYUN::CEN::CenBandwidthLimit 172
14.6. ALIYUN::CEN::CenRouteMap 173
14.7. ALIYUN::CEN::CenVbrHealthCheck 185
14.8. ALIYUN::CEN::CenRouteService 190
14.9. ALIYUN::CEN::RouteEntry 192
14.10. ALIYUN::CEN::TransitRouter 194
14.11. ALIYUN::CEN::TransitRouterPeerAttachment 197
14.12. ALIYUN::CEN::TransitRouterRouteEntry 204
14.13. ALIYUN::CEN::TransitRouterRouteTable 208
14.14. ALIYUN::CEN::TransitRouterRouteTableAssociation 210
14.15. ALIYUN::CEN::TransitRouterRouteTablePropagation 213
14.16. ALIYUN::CEN::TransitRouterVbrAttachment 216
14.17. ALIYUN::CEN::TransitRouterVpcAttachment 221
15.ClickHouse 227
15.1. ALIYUN::ClickHouse::DBCluster 227
16.CLOUDFW 239
16.1. ALIYUN::CLOUDFW::AddressBook 239
16.2. ALIYUN::CLOUDFW::ControlPolicy 243
16.3. ALIYUN::CLOUDFW::VpcFirewallControlPolicy 253
17.CMS 261
17.1. ALIYUN::CMS::Contact 261
17.2. ALIYUN::CMS::ContactGroup 263
17.3. ALIYUN::CMS::DynamicTagGroup 265
17.4. ALIYUN::CMS::EventRule 269
17.5. ALIYUN::CMS::EventRuleTargets 272
17.6. ALIYUN::CMS::GroupMetricRule 277
17.7. ALIYUN::CMS::MetricRuleTargets 287
17.8. ALIYUN::CMS::MetricRuleTemplate 290

17.9. ALIYUN::CMS::MonitoringAgentProcess 297
17.10. ALIYUN::CMS::MonitorGroup 299
17.11. ALIYUN::CMS::MonitorGroupInstances 300
17.12. ALIYUN::CMS::SiteMonitor 303
18.CR 308
18.1. ALIYUN::CR::InstanceEndpointAclPolicy 308
18.2. ALIYUN::CR::Repository 310
18.3. ALIYUN::CR::Namespace 314
18.4. ALIYUN::CR::UserInfo 316
19.CS 319
19.1. ALIYUN::CS::AnyCluster 319
19.2. ALIYUN::CS::ClusterNodePool 324
19.3. ALIYUN::CS::ManagedEdgeKubernetesCluster 337
19.4. ALIYUN::CS::ManagedKubernetesCluster 358
19.5. ALIYUN::CS::ServerlessKubernetesCluster 364
20.Config 374
20.1. ALIYUN::Config::CompliancePack 374
20.2. ALIYUN::Config::DeliveryChannel 378
20.3. ALIYUN::Config::Rule 383
21.DATAHUB 389
21.1. ALIYUN::DATAHUB::Project 389
21.2. ALIYUN::DATAHUB::Topic 390
22.DBS 395
22.1. ALIYUN::DBS::RestoreTask 395
23.DMS 403
23.1. ALIYUN::DMS::Instance 403
23.2. ALIYUN::DMS::User 411
24.DNS 416

24.1. ALIYUN::DNS::Domain 416
24.2. ALIYUN::DNS::DomainGroup 418
24.3. ALIYUN::DNS::DomainRecord 419
25.DRDS 422
25.1. ALIYUN::DRDS::DrdsInstance 422
25.2. ALIYUN::DRDS::DrdsDB 428
26.ECI 434
26.1. ALIYUN::ECI::ImageCache 434
27.ECS 438
27.1. ALIYUN::ECS::AutoProvisioningGroup 438
27.2. ALIYUN::ECS::AutoSnapshotPolicy 454
27.3. ALIYUN::ECS::AssignIpv6Addresses 459
27.4. ALIYUN::ECS::AssignPrivateIpAddresses 461
27.5. ALIYUN::ECS::Command 464
27.6. ALIYUN::ECS::CopyImage 468
27.7. ALIYUN::ECS::CustomImage 471
27.8. ALIYUN::ECS::DedicatedHost 475
27.9. ALIYUN::ECS::DeploymentSet 486
27.10. ALIYUN::ECS::Disk 487
27.11. ALIYUN::ECS::DiskAttachment 491
27.12. ALIYUN::ECS::ForwardEntry 493
27.13. ALIYUN::ECS::HpcCluster 497
27.14. ALIYUN::ECS::InstanceClone 499
27.15. ALIYUN::ECS::InstanceGroup 511
27.16. ALIYUN::ECS::InstanceGroupClone 537
27.17. ALIYUN::ECS::Invocation 547
27.18. ALIYUN::ECS::JoinSecurityGroup 550
27.19. ALIYUN::ECS::LaunchTemplate 551

27.20. ALIYUN::ECS::NetworkInterface 565
27.21. ALIYUN::ECS::NetworkInterfaceAttachment 569
27.22. ALIYUN::ECS::NetworkInterfacePermission 572
27.23. ALIYUN::ECS::Route 573
27.24. ALIYUN::ECS::SNatEntry 575
27.25. ALIYUN::ECS::SecurityGroup 578
27.26. ALIYUN::ECS::SecurityGroupClone 586
27.27. ALIYUN::ECS::SecurityGroupIngress 589
27.28. ALIYUN::ECS::Snapshot 595
27.29. ALIYUN::ECS::SSHKeyPair 600
27.30. ALIYUN::ECS::SSHKeyPairAttachment 603
27.31. ALIYUN::ECS::VPC 603
27.32. ALIYUN::ECS::VSwitch 608
27.33. DATASOURCE::ECS::DiskCategories 611
27.34. DATASOURCE::ECS::Images 613
27.35. DATASOURCE::ECS::RecommendInstanceTypes 618
28.EDAS 622
28.1. ALIYUN::EDAS::Application 622
28.2. ALIYUN::EDAS::Cluster 626
28.3. ALIYUN::EDAS::ClusterMember 630
28.4. ALIYUN::EDAS::DeployGroup 633
28.5. ALIYUN::EDAS::K8sApplication 635
28.6. ALIYUN::EDAS::K8sCluster 668
28.7. ALIYUN::EDAS::K8sSlbBinding 672
28.8. ALIYUN::EDAS::UserDefineRegion 675
29.Elasticsearch 679
30.EHPC 680
30.1. ALIYUN::EHPC::Cluster 680

31.EMR 693
31.1. ALIYUN::EMR::ClusterServiceConfigs 693
32.ENS 696
32.1. ALIYUN::ENS::Instance 696
33.ESS 708
33.1. ALIYUN::ESS::AlarmTask 708
33.2. ALIYUN::ESS::AlarmTaskEnable 711
33.3. ALIYUN::ESS::LifecycleHook 712
33.4. ALIYUN::ESS::ScalingConfiguration 717
33.5. ALIYUN::ESS::ScalingGroup 732
33.6. ALIYUN::ESS::ScalingGroupEnable 742
33.7. ALIYUN::ESS::ScalingRule 743
33.8. ALIYUN::ESS::ScheduledTask 755
34.FC 761
34.1. ALIYUN::FC::Alias 761
34.2. ALIYUN::FC::CustomDomain 763
34.3. ALIYUN::FC::Function 767
34.4. ALIYUN::FC::FunctionInvoker 776
34.5. ALIYUN::FC::ProvisionConfig 780
34.6. ALIYUN::FC::Service 783
34.7. ALIYUN::FC::Layer 793
34.8. ALIYUN::FC::Trigger 795
34.9. ALIYUN::FC::Version 808
35.FNF 811
35.1. ALIYUN::FNF::Flow 811
35.2. ALIYUN::FNF::Schedule 813
36.FOAS 817
36.1. ALIYUN::FOAS::Cluster 817

36.2. ALIYUN::FOAS::Project 821
37.GA 825
37.1. ALIYUN::GA::Accelerator 825
37.2. ALIYUN::GA::BandwidthPackage 829
37.3. ALIYUN::GA::BandwidthPackageAcceleratorAddition 836
37.4. ALIYUN::GA::EndpointGroup 838
37.5. ALIYUN::GA::IpSets 843
37.6. ALIYUN::GA::Listener 846
38.GPDB 851
38.1. ALIYUN::GPDB::DBInstance 851
38.2. ALIYUN::GPDB::ElasticDBInstance 854
38.3. ALIYUN::GPDB::InstancePublicConnection 858
39.HBR 860
39.1. ALIYUN::HBR::BackupClients 860
39.2. ALIYUN::HBR::DbAgent 862
39.3. ALIYUN::HBR::DbPlan 863
39.4. ALIYUN::HBR::DbVault 872
39.5. ALIYUN::HBR::RestoreJob 874
40.IOT 880
40.1. ALIYUN::IOT::Device 880
40.2. ALIYUN::IOT::DeviceGroup 885
40.3. ALIYUN::IOT::Product 888
40.4. ALIYUN::IOT::ProductTopic 897
40.5. ALIYUN::IOT::Rule 900
40.6. ALIYUN::IOT::RuleAction 907
41.KAFKA 912
41.1. ALIYUN::KAFKA::Instance 912
41.2. ALIYUN::KAFKA::Topic 919

42.KMS 922
42.1. ALIYUN::KMS::Alias 922
42.2. ALIYUN::KMS::Key 923
42.3. ALIYUN::KMS::Secret 927
43.MarketPlace 932
43.1. ALIYUN::MarketPlace::Order 932
44.MaxCompute 934
44.1. ALIYUN::MaxCompute::Table 934
45.Memcache 939
45.1. ALIYUN::Memcache::Instance 939
45.2. ALIYUN::Memcache::Whitelist 947
46.MSE 951
46.1. ALIYUN::MSE::Cluster 951
46.2. ALIYUN::MSE::Gateway 961
47.MNS 965
47.1. ALIYUN::MNS::Queue 965
47.2. ALIYUN::MNS::Subscription 969
47.3. ALIYUN::MNS::Topic 973
48.MongoDB 977
48.1. ALIYUN::MONGODB::Instance 977
48.2. ALIYUN::MONGODB::ServerlessInstance 988
48.3. ALIYUN::MONGODB::ShardingInstance 996
49.NAS 1008
49.1. ALIYUN::NAS::AccessGroup 1008
49.2. ALIYUN::NAS::AccessRule 1009
49.3. ALIYUN::NAS::FileSystem 1011
49.4. ALIYUN::NAS::MountTarget 1018
50.OOS 1021

50.1. ALIYUN::OOS::Execution 1021
50.2. ALIYUN::OOS::Template 1027
50.3. ALIYUN::OOS::Parameter 1029
51.OSS 1033
51.1. ALIYUN::OSS::Bucket 1033
52.OTS 1042
52.1. ALIYUN::OTS::Instance 1042
52.2. ALIYUN::OTS::SearchIndex 1046
52.3. ALIYUN::OTS::Table 1052
52.4. ALIYUN::OTS::VpcBinder 1058
53.ApsaraDB for POLARDB 1061
53.1. ALIYUN::POLARDB::Account 1061
53.2. ALIYUN::POLARDB::AccountPrivilege 1064
53.3. ALIYUN::POLARDB::DBCluster 1067
53.4. ALIYUN::POLARDB::DBClusterAccessWhiteList 1082
53.5. ALIYUN::POLARDB::DBClusterEndpoint 1085
53.6. ALIYUN::POLARDB::DBClusterEndpointAddress 1089
53.7. ALIYUN::POLARDB::DBInstance 1092
53.8. ALIYUN::POLARDB::DBNodes 1095
54.PrivateLink 1099
54.1. ALIYUN::PrivateLink::VpcEndpoint 1099
54.2. ALIYUN::PrivateLink::VpcEndpointService 1103
54.3. ALIYUN::PrivateLink::VpcEndpointServiceAttachment 1107
55.PVTZ 1111
55.1. ALIYUN::PVTZ::UserVpcAuthorization 1111
55.2. ALIYUN::PVTZ::ZoneRecord 1112
55.3. ALIYUN::PVTZ::ZoneVpcBinder 1116
56.RAM 1119

56.1. ALIYUN::RAM::AccessKey 1119
56.2. ALIYUN::RAM::AttachPolicyToRole 1121
56.3. ALIYUN::RAM::AttachPolicyToUser 1122
56.4. ALIYUN::RAM::RamAccountAlias 1123
56.5. ALIYUN::RAM::Group 1125
56.6. ALIYUN::RAM::ManagedPolicy 1128
56.7. ALIYUN::RAM::Role 1131
56.8. ALIYUN::RAM::SAMLProvider 1136
56.9. ALIYUN::RAM::SecurityPreference 1139
56.10. ALIYUN::RAM::User 1145
56.11. ALIYUN::RAM::UserToGroupAddition 1151
57.RDS 1152
57.1. ALIYUN::RDS::Account 1152
57.2. ALIYUN::RDS::AccountPrivilege 1155
57.3. ALIYUN::RDS::ADInfo 1157
57.4. ALIYUN::RDS::Database 1160
57.5. ALIYUN::RDS::DBInstance 1163
57.6. ALIYUN::RDS::DBInstanceParameterGroup 1189
57.7. ALIYUN::RDS::DBInstanceSecurityIps 1191
57.8. ALIYUN::RDS::DBInstanceClone 1192
57.9. ALIYUN::RDS::PrepayDBInstance 1211
57.10. ALIYUN::RDS::ReadOnlyDBInstance 1240
58.ResourceManager 1249
58.1. ALIYUN::ResourceManager::ResourceDirectory 1249
58.2. ALIYUN::ResourceManager::Account 1251
58.3. ALIYUN::ResourceManager::ControlPolicy 1254
58.4. ALIYUN::ResourceManager::ControlPolicyAttachment 1259
58.5. ALIYUN::ResourceManager::Folder 1261

58.6. ALIYUN::ResourceManager::Handshake 1264
58.7. ALIYUN::ResourceManager::PolicyAttachment 1267
58.8. ALIYUN::ResourceManager::ResourceGroup 1271
58.9. ALIYUN::ResourceManager::ResourceShare 1274
59.Redis 1278
59.1. ALIYUN::REDIS::Account 1278
59.2. ALIYUN::REDIS::Instance 1281
59.3. ALIYUN::REDIS::Whitelist 1289
60.ROCKETMQ 1293
60.1. ALIYUN::ROCKETMQ::Instance 1293
60.2. ALIYUN::ROCKETMQ::Group 1297
60.3. ALIYUN::ROCKETMQ::Topic 1299
61.ROS 1304
61.1. ALIYUN::ROS::AutoEnableService 1304
61.2. ALIYUN::ROS::CustomResource 1307
61.3. ALIYUN::ROS::Stack 1312
61.4. ALIYUN::ROS::Sleep 1318
61.5. ALIYUN::ROS::WaitCondition 1323
61.6. ALIYUN::ROS::WaitConditionHandle 1326
62.SAE 1330
62.1. ALIYUN::SAE::Application 1330
62.2. ALIYUN::SAE::Namespace 1342
62.3. ALIYUN::SAE::SlbBinding 1344
63.SAG 1348
63.1. ALIYUN::SAG::CloudConnectNetwork 1348
63.2. ALIYUN::SAG::ACL 1350
63.3. ALIYUN::SAG::ACLAssociation 1351
63.4. ALIYUN::SAG::ACLRule 1352

63.5. ALIYUN::SAG::GrantCcnToCen 1355
63.6. ALIYUN::SAG::Qos 1357
63.7. ALIYUN::SAG::QosAssociation 1358
63.8. ALIYUN::SAG::QosCar 1359
63.9. ALIYUN::SAG::QosPolicy 1362
63.10. ALIYUN::SAG::SmartAccessGateway 1365
63.11. ALIYUN::SAG::SmartAccessGatewayBinding 1372
63.12. ALIYUN::SAG::SerialNumberBinding 1373
64.SLB 1375
64.1. ALIYUN::SLB::AccessControl 1375
64.2. ALIYUN::SLB::BackendServerAttachment 1378
64.3. ALIYUN::SLB::BackendServerToVServerGroupAddition 1382
64.4. ALIYUN::SLB::Certificate 1385
64.5. ALIYUN::SLB::DomainExtension 1388
64.6. ALIYUN::SLB::Listener 1390
64.7. ALIYUN::SLB::LoadBalancer 1397
64.8. ALIYUN::SLB::LoadBalancerClone 1410
64.9. ALIYUN::SLB::MasterSlaveServerGroup 1417
64.10. ALIYUN::SLB::Rule 1418
64.11. ALIYUN::SLB::VServerGroup 1421
65.SLS 1425
65.1. ALIYUN::SLS::ApplyConfigToMachineGroup 1425
65.2. ALIYUN::SLS::Audit 1425
65.3. ALIYUN::SLS::Etl 1441
65.4. ALIYUN::SLS::Index 1445
65.5. ALIYUN::SLS::Project 1450
65.6. ALIYUN::SLS::Savedsearch 1453
65.7. ALIYUN::SLS::Logstore 1455

65.8. ALIYUN::SLS::LogtailConfig 1462
65.9. ALIYUN::SLS::MachineGroup 1466
66.TSDB 1469
66.1. ALIYUN::TSDB::HiTSDBInstance 1469
66.2. ALIYUN::TSDB::InfluxDBDatabase 1472
66.3. ALIYUN::TSDB::InfluxDBUser 1473
67.VPC 1477
67.1. ALIYUN::VPC::AnycastEIP 1477
67.2. ALIYUN::VPC::AnycastEIPAssociation 1480
67.3. ALIYUN::VPC::CommonBandwidthPackage 1483
67.4. ALIYUN::VPC::CommonBandwidthPackageIp 1487
67.5. ALIYUN::VPC::BgpGroup 1490
67.6. ALIYUN::VPC::BgpNetwork 1493
67.7. ALIYUN::VPC::BgpPeer 1496
67.8. ALIYUN::VPC::CustomerGateway 1498
67.9. ALIYUN::VPC::DhcpOptionsSet 1500
67.10. ALIYUN::VPC::DhcpOptionsSetAttachment 1502
67.11. ALIYUN::VPC::EIP 1504
67.12. ALIYUN::VPC::EIPAssociation 1511
67.13. ALIYUN::VPC::EIPSegment 1520
67.14. ALIYUN::VPC::FlowLog 1524
67.15. ALIYUN::VPC::GrantInstanceToCen 1529
67.16. ALIYUN::VPC::NatGateway 1531
67.17. ALIYUN::VPC::IpsecServer 1539
67.18. ALIYUN::VPC::Ipv6Gateway 1545
67.19. ALIYUN::VPC::Ipv6InternetBandwidth 1548
67.20. ALIYUN::VPC::NetworkAcl 1551
67.21. ALIYUN::VPC::NetworkAclAssociation 1556

67.22. ALIYUN::VPC::PeeringRouterInterfaceBinding 1558
67.23. ALIYUN::VPC::PeeringRouterInterfaceConnection 1559
67.24. ALIYUN::VPC::RouterInterface 1561
67.25. ALIYUN::VPC::RouteTable 1570
67.26. ALIYUN::VPC::RouteTableAssociation 1573
67.27. ALIYUN::VPC::SnatEntry 1575
67.28. ALIYUN::VPC::SslVpnClientCert 1578
67.29. ALIYUN::VPC::SslVpnServer 1579
67.30. ALIYUN::VPC::VirtualBorderRouter 1582
67.31. ALIYUN::VPC::VpnConnection 1587
67.32. ALIYUN::VPC::VpnGateway 1593
67.33. ALIYUN::VPC::VpnPbrRouteEntry 1601
67.34. ALIYUN::VPC::VpnRouteEntry 1604
67.35. DATASOURCE::VPC::Vpcs 1608
67.36. DATASOURCE::VPC::VSwitches 1611
68.VS 1614
68.1. ALIYUN::VS::Group 1614
69.WAF 1619
69.1. ALIYUN::WAF::AclRule 1619
69.2. ALIYUN::WAF::Domain 1621
69.3. ALIYUN::WAF::DomainConfig 1631
69.4. ALIYUN::WAF::Instance 1637
69.5. ALIYUN::WAF::LogServiceEnable 1643
69.6. ALIYUN::WAF::WafSwitch 1645
70.Transform 1648
70.1. Aliyun::Serverless::Api 1648
70.2. Aliyun::Serverless::CustomDomain 1650
70.3. Aliyun::Serverless::Function 1653

70.4. Aliyun::Serverless::Log 1656
70.5. Aliyun::Serverless::Log::Logstore 1657
70.6. Aliyun::Serverless::MNSTopic 1660
70.7. Aliyun::Serverless::Service 1662
70.8. Aliyun::Serverless::TableStore 1666
70.9. Aliyun::Serverless::TableStore::Table 1669

1.View resource types

You can view supported resource types and their details in the Resource Orchestration Service (ROS) console. You can create stack templates based on the properties of resource types and specify specific requirements for resources.

Procedure

1. Log on to the ROS console.
2. In the left-side navigation pane, click **Resource Types**.

   On the **Resource Types** page, you can view all supported resource types.
3. Click **Type** or **View Details** in the **Actions** column corresponding to a resource type to view **Properties**, **Response Parameters**, and **Sample Template**.
   - **Properties**

     The **Properties** tab shows configuration options that you can set for a resource when creating a stack template. ECS instance types, images, and security groups are examples of properties. The following table describes the metadata of each property.

Property	Description
key	The name of the property.
type	The data type of the property.
required	Specifies whether the property is required.
immutable	Specifies whether the property is immutable.
update_allowed	Specifies whether the property can be updated. If the property of a created resource instance can be updated, you can change the property value in the template.
description	The detailed description of the property.
constraints	The value range of this property.
schema	The sub-properties of the property.

   - **Response Parameters**

     The **Response Parameters** tab shows property values that you can obtain after resources are created in the ROS console. ECS instance ID, private IP address, and public IP address are examples of response parameters.
   - **Sample Template**

     The **Sample Template** tab shows the sample template for creating resources in the ROS console.

2.ACM

2.1. ALIYUN::ACM::Configuration

ALIYUN::ACM::Configuration is used to create a Configuration.

Syntax

```
{
  "Type": "ALIYUN::ACM::Configuration",
  "Properties": {
    "DataId": String,
    "Group": String,
    "AppName": String,
    "Tags": String,
    "Content": String,
    "Type": String,
    "NamespaceId": String,
    "Desc": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint

Parameter	Type	Required	Editable	Description	Constraint
DataId	String	Yes	Not supported	Configuration ID	It supports letters, digits, periods (.), colons (:), asterisks (*), underscores (_), and hyphens (-). When the ID prefix is one of the following values, ACM automatically encrypts the configuration with KMS: • cipher-: uses KMS to encrypt and decrypt configurations. We recommend that the size of the data to be encrypted and decrypted do not exceed 4 KB and 6 KB. You may fail to decrypt special character such as and(&). Therefore, we do not recommend that you use cipher-. • cipher-kms-aes-128-: KMS-based envelope encryption and decryption. We recommend that you use. cipher-kms-aes-128: the size of the configuration file. Valid values: 0KB to 100 kB. cipher-kms-aes-128-the plaintext of the configuration content is not transmitted to KMS, ensuring higher security.
Group	String	No	Released	The group to which the configuration item that you want to create belongs.	None
AppName	String	Not supported	Supported	The name of the application to which the configuration item that you want to create belongs.	None
Tags	String	Not supported	Supported	The tags added to the configuration item.	If multiple labels exist, separate them with commas (,).
Content	String	Yes	Yes	The content of the configuration item that you want to create.	None

Parameter	Type	Required	Editable	Description	Constraint
Type	String	Not supported	Supported	The content format of the configuration item.	Valid values: • text • json • xml • yaml • text/html • properties
NamespaceId	String	Yes	Not supported	The ID of the namespace that was created.	None
Desc	String	Not supported	Supported	Description of the configuration	None

Return value

Fn::GetAtt

- DataId: The ID of the configuration.
- Group: The group.
- NamespaceId: The ID of the namespace.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Configuration": {
      "Type": "ALIYUN::ACM::Configuration",
      "Properties": {
        "DataId": {
          "Ref": "DataId"
        },
        "Group": {
          "Ref": "Group"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "AppName": {
          "Ref": "AppName"
        },
        "Content": {
          "Ref": "Content"
        },
        "Type": {
          "Ref": "Type"
        },
        "NamespaceId": {
          "Ref": "NamespaceId"
        },
        "Desc": {
          "Ref": "Desc"
        }
      }
    }
  },
  "Parameters": {
    "DataId": {
      "Type": "String",
      "Description": "The ID of the configuration. Allowed characters are upper and lower case letters, numbers, decimal points
(.), Colons (:), asterisks (*), underscores (_), and underscores (-). When the ID prefix is the following value, ACM will autom
atically use KMS service to encrypt this configuration:\nThe prefix is cipher-: the KMS service is called to encrypt and decryp
t the configuration. The size of the encrypted data does not exceed 4 KB, and the maximum does not exceed 6 KB. Special symbols
such as and (&) will decrypt errors and are not recommended.\nThe prefix is cipher-kms-aes-128-: using KMS's envelope encryptio
n and decryption method, the configuration content can exceed 6 KB, up to 100 KB. The plain text data of the configuration cont
ent will not be transmitted to the KMS system, which is more secure and recommended."
```

```
    },
    "Group": {
      "Default": "DEFAULT_GROUP",
      "Type": "String",
      "Description": "Group"
    },
    "Tags": {
      "Type": "String",
      "Description": "Label configurations, such as the presence of a plurality of tags, separated by commas"
    },
    "AppName": {
      "Type": "String",
      "Description": "Configuration application name"
    },
    "Content": {
      "Type": "String",
      "Description": "The contents of the configuration"
    },
    "Type": {
      "Default": "text",
      "Type": "String",
      "Description": "Provisioning content format, optional values as follows:\ntext, json, xml, yaml, text/html, properties",
      "AllowedValues": [
        "text",
        "json",
        "xml",
        "yaml",
        "text/html",
        "properties"
      ]
    },
    "NamespaceId": {
      "Type": "String",
      "Description": "ID of namespace"
    },
    "Desc": {
      "Type": "String",
      "Description": "Configuration description explains"
    }
  },
  "Outputs": {
    "DataId": {
      "Description": "The ID of the configuration",
      "Value": {
        "Fn::GetAtt": [
          "Configuration",
          "DataId"
        ]
      }
    },
    "Group": {
      "Description": "Group",
      "Value": {
        "Fn::GetAtt": [
          "Configuration",
          "Group"
        ]
      }
    },
    "NamespaceId": {
      "Description": "ID of namespace",
      "Value": {
        "Fn::GetAtt": [
          "Configuration",
          "NamespaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
```

```
Resources:
  Configuration:
    Type: 'ALIYUN::ACM::Configuration'
    Properties:
      DataId:
        Ref: DataId
      Group:
        Ref: Group
      Tags:
        Ref: Tags
      AppName:
        Ref: AppName
      Content:
        Ref: Content
      Type:
        Ref: Type
      NamespaceId:
        Ref: NamespaceId
      Desc:
        Ref: Desc
Parameters:
  DataId:
    Type: String
    Description: >-
      The ID of the configuration. Allowed characters are upper and lower case
      letters, numbers, decimal points (.), Colons (:), asterisks (*),
      underscores (_), and underscores (-). When the ID prefix is the following
      value, ACM will automatically use KMS service to encrypt this
      configuration:
      The prefix is cipher-: the KMS service is called to encrypt and decrypt
      the configuration. The size of the encrypted data does not exceed 4 KB,
      and the maximum does not exceed 6 KB. Special symbols such as and (&)
      will decrypt errors and are not recommended.
      The prefix is cipher-kms-aes-128-: using KMS's envelope encryption and
      decryption method, the configuration content can exceed 6 KB, up to 100
      KB. The plain text data of the configuration content will not be
      transmitted to the KMS system, which is more secure and recommended.
  Group:
    Default: DEFAULT_GROUP
    Type: String
    Description: Group
  Tags:
    Type: String
    Description: >-
      Label configurations, such as the presence of a plurality of tags,
      separated by commas
  AppName:
    Type: String
    Description: Configuration application name
  Content:
    Type: String
    Description: The contents of the configuration
  Type:
    Default: text
    Type: String
    Description: |-
      Provisioning content format, optional values as follows:
      text, json, xml, yaml, text/html, properties
    AllowedValues:
      - text
      -json
      -xml
      -yaml
      -text/html
      -properties
  NamespaceId:
    Type: String
    Description: ID of namespace
  Desc:
    Type: String
    Description: Configuration description explains
Outputs:
  DataId:
    Description: The ID of the configuration
```

```
    Value:
      'Fn::GetAtt':
        -Configuration
        -DataId
  Group:
    Description: Group
    Value:
      'Fn::GetAtt':
        -Configuration
        -Group
  NamespaceId:
    Description: ID of namespace
    Value:
      'Fn::GetAtt':
        -Configuration
        -NamespaceId
```

2.2. ALIYUN::ACM::Namespace

ALIYUN::ACM::Namespace is used to create a namespace.

Syntax

```
{
  "Type": "ALIYUN::ACM::Namespace",
  "Properties": {
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Name	String	Yes	Yes	The name of the namespace.	None

Response parameters

Fn::GetAtt

- NamespaceId: the ID of the namespace.
- Endpoint: the endpoint of the namespace.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Namespace": {
      "Type": "ALIYUN::ACM::Namespace",
      "Properties": {
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Parameters": {
    "Name": {
      "Type": "String",
      "Description": "Namespace name"
    }
  },
  "Outputs": {
    "Endpoint": {
      "Description": "Endpoint",
      "Value": {
        "Fn::GetAtt": [
          "Namespace",
          "Endpoint"
        ]
      }
    },
    "NamespaceId": {
      "Description": "ID namespace",
      "Value": {
        "Fn::GetAtt": [
          "Namespace",
          "NamespaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Namespace:
    Type: 'ALIYUN::ACM::Namespace'
    Properties:
      Name:
        Ref: Name
Parameters:
  Name:
    Type: String
    Description: Namespace name
Outputs:
  Endpoint:
    Description: Endpoint
    Value:
      'Fn::GetAtt':
        - Namespace
        - Endpoint
  NamespaceId:
    Description: ID namespace
    Value:
      'Fn::GetAtt':
        - Namespace
        - NamespaceId
```

For more information about the combination example of the namespace and the configuration, visit Configuration.json and Configuration.yml.

3.ActionTrail

3.1. ALIYUN::ACTIONTRAIL::Trail

ALIYUN::ACTIONTRAIL::Trail is used to create a trail to deliver events to a Log Service Logstore or an Object Storage Service (OSS) bucket.

Syntax

```
{
  "Type": "ALIYUN::ACTIONTRAIL::Trail",
  "Properties": {
    "Name": String,
    "OssBucketName": String,
    "RoleName": String,
    "OssKeyPrefix": String,
    "EventRW": String,
    "SlsProjectArn": String,
    "SlsWriteRoleArn": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Name	String	Yes	No	The name of the trail.	The name must be 6 to 36 characters in length and can contain letters, digits, hyphens (-), and underscores (_). It must start with a letter. **Note** The name must be unique within your Alibaba Cloud account.
OssBucketName	String	Yes	Yes	The name of the OSS bucket to which events are to be delivered.	The name must be 3 to 63 characters in length. It must start with a lowercase letter or a digit and can contain lowercase letters, digits, and hyphens (-). **Note** • Make sure that an OSS bucket is created. For more information, see Create buckets. • You must specify at least one of the OssBucketName and SlsProjectArn parameters.
RoleName	String	Yes	Yes	The service-linked role assumed by ActionTrail.	Default value: AliyunServiceRoleForActionTrail.
OssKeyPrefix	String	No	Yes	The prefix of the log files to be stored in the desired OSS bucket.	The prefix must be 6 to 32 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), and underscores (_). It must start with a letter.
EventRW	String	No	Yes	Specifies whether the event is a read or write event.	Default value: Write. Valid values: • Read • Write • All

Property	Type	Required	Editable	Description	Constraint
SlsProjectArn	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the Log Service project to which events are to be delivered.	Make sure that a Log Service project and a Logstore are created. The Logstore is named in the format of `actiontrail_<Trail name>`. For more information, see Create a Logstore and Create a project. **Note** You must specify at least one of the OssBucketName and SlsProjectArn parameters.
SlsWriteRoleArn	String	No	Yes	The ARN of the service-linked role that is assumed by ActionTrail to deliver events to the desired Log Service project.	None

Response parameters

Fn::GetAtt

Name: The name of the trail.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "RoleName": {
      "Type": "String",
      "MinLength": 1,
      "MaxLength": 64
    },
    "EventRW": {
      "Type": "String",
      "AllowedValues": [
        "Write",
        "Read",
        "All"
      ]
    },
    "SlsProjectName": {
      "Type": "String"
    },
    "OssKeyPrefix": {
      "Type": "String",
      "Default": ""
    },
    "OssBucketName": {
      "Type": "String"
    },
    "TrailName": {
      "Type": "String"
    }
  },
  "Resources": {
    "Role": {
      "Type": "ALIYUN::RAM::Role",
      "Properties": {
        "RoleName": {
          "Ref": "RoleName"
        },
        "Policies": [
          {
            "PolicyName": {
              "Fn::Sub": "ActionTrailPolicy-${ALIYUN::StackId}"
            },
```

```
            "PolicyDocument": {
              "Version": "1",
              "Statement": [
                {
                  "Action": [
                    "oss:GetBucketLocation",
                    "oss:ListObjects",
                    "oss:PutObject"
                  ],
                  "Resource": [
                    "*"
                  ],
                  "Effect": "Allow"
                },
                {
                  "Action": [
                    "log:PostLogStoreLogs",
                    "log:CreateLogstore",
                    "Log:GetLogstore"
                  ],
                  "Resource": [
                    "*"
                  ],
                  "Effect": "Allow"
                },
                {
                  "Action": [
                    "mns:PublishMessage"
                  ],
                  "Resource": [
                    "*"
                  ],
                  "Effect": "Allow"
                }
              ]
            }
          }
        ],
        "AssumeRolePolicyDocument": {
          "Version": "1",
          "Statement": [
            {
              "Action": "sts:AssumeRole",
              "Effect": "Allow",
              "Principal": {
                "Service": [
                  "actiontrail.aliyuncs.com"
                ]
              }
            }
          ]
        }
      }
    },
    "Bucket": {
      "Type": "ALIYUN::OSS::Bucket",
      "Properties": {
        "AccessControl": "private",
        "BucketName": {
          "Ref": "OssBucketName"
        },
        "DeletionForce": true
      }
    },
    "SlsProject": {
      "Type": "ALIYUN::SLS::Project",
      "Properties": {
        "Name": {
          "Ref": "SlsProjectName"
        }
      }
    },
    "SlsLogStore": {
      "Type": "ALIYUN::SLS::Logstore",
```

```
      "DependsOn": "SlsProject",
      "Properties": {
        "LogstoreName": {
          "Fn::Sub": "actiontrail_${TrailName}"
        },
        "PreserveStorage": true,
        "ProjectName": {
          "Fn::GetAtt": [
            "SlsProject",
            "Name"
          ]
        },
        "AppendMeta": true,
        "MaxSplitShard": 64,
        "AutoSplit": true,
        "EnableTracking": false,
        "ShardCount": 2
      }
    },
    "Trail": {
      "DependsOn": [
        "Role",
        "Bucket",
        "SlsLogStore"
      ],
      "Type": "ALIYUN::ACTIONTRAIL::Trail",
      "Properties": {
        "SlsProjectArn": {
          "Fn::Sub": "acs:log:${ALIYUN::Region}::project/${SlsProjectName}"
        },
        "RoleName": {
          "Fn::GetAtt": [
            "Role",
            "RoleName"
          ]
        },
        "EventRW": {
          "Ref": "EventRW"
        },
        "OssKeyPrefix": {
          "Ref": "OssKeyPrefix"
        },
        "OssBucketName": {
          "Fn::GetAtt": [
            "Bucket",
            "Name"
          ]
        },
        "SlsWriteRoleArn": {
          "Fn::Sub": "acs:ram::${ALIYUN::TenantId}:role/${Role.RoleName}"
        },
        "Name": {
          "Ref": "TrailName"
        }
      }
    },
    "TrailLogging": {
      "Type": "ALIYUN::ACTIONTRAIL::TrailLogging",
      "Properties": {
        "Name": {
          "Fn::GetAtt": [
            "Trail",
            "Name"
          ]
        },
        "Enable": {
          "Ref": "Enable"
        }
      }
    }
  },
  "Outputs": {
    "Name": {
      "Value": {
```

```
        "Fn::GetAtt": [
          "Trail",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  RoleName:
    Type: String
    MinLength: 1
    MaxLength: 64
  EventRW:
    Type: String
    AllowedValues:
      - Write
      - Read
      - All
  SlsProjectName:
    Type: String
  OssKeyPrefix:
    Type: String
    Default: ''
  OssBucketName:
    Type: String
  TrailName:
    Type: String
Resources:
  Role:
    Type: 'ALIYUN::RAM::Role'
    Properties:
      RoleName:
        Ref: RoleName
      Policies:
        - PolicyName:
            'Fn::Sub': 'ActionTrailPolicy-${ALIYUN::StackId}'
          PolicyDocument:
            Version: '1'
            Statement:
              - Action:
                  - 'oss:GetBucketLocation'
                  - 'oss:ListObjects'
                  - 'oss:PutObject'
                Resource:
                  - '*'
                Effect: Allow
              - Action:
                  - 'log:PostLogStoreLogs'
                  - 'log:CreateLogstore'
                  - 'Log:GetLogstore'
                Resource:
                  - '*'
                Effect: Allow
              - Action:
                  - 'mns:PublishMessage'
                Resource:
                  - '*'
                Effect: Allow
      AssumeRolePolicyDocument:
        Version: '1'
        Statement:
          - Action: 'sts:AssumeRole'
            Effect: Allow
            Principal:
              Service:
                - actiontrail.aliyuncs.com
  Bucket:
    Type: 'ALIYUN::OSS::Bucket'
    Properties:
```

```
      AccessControl: private
      BucketName:
        Ref: OssBucketName
      DeletionForce: true
  SlsProject:
    Type: 'ALIYUN::SLS::Project'
    Properties:
      Name:
        Ref: SlsProjectName
  SlsLogStore:
    Type: 'ALIYUN::SLS::Logstore'
    DependsOn: SlsProject
    Properties:
      LogstoreName:
        'Fn::Sub': 'actiontrail_${TrailName}'
      PreserveStorage: true
      ProjectName:
        'Fn::GetAtt':
          - SlsProject
          - Name
      AppendMeta: true
      MaxSplitShard: 64
      AutoSplit: true
      EnableTracking: false
      ShardCount: 2
  Trail:
    DependsOn:
      - Role
      - Bucket
      - SlsLogStore
    Type: 'ALIYUN::ACTIONTRAIL::Trail'
    Properties:
      SlsProjectArn:
        'Fn::Sub': 'acs:log:${ALIYUN::Region}::project/${SlsProjectName}'
      RoleName:
        'Fn::GetAtt':
          - Role
          - RoleName
      EventRW:
        Ref: EventRW
      OssKeyPrefix:
        Ref: OssKeyPrefix
      OssBucketName:
        'Fn::GetAtt':
          - Bucket
          - Name
      SlsWriteRoleArn:
        'Fn::Sub': 'acs:ram::${ALIYUN::TenantId}:role/${Role.RoleName}'
      Name:
        Ref: TrailName
  TrailLogging:
    Type: 'ALIYUN::ACTIONTRAIL::TrailLogging'
    Properties:
      Name:
        'Fn::GetAtt':
          - Trail
          - Name
      Enable:
        Ref: Enable
Outputs:
  Name:
    Value:
      'Fn::GetAtt':
        - Trail
        - Name
```

To view more examples, visit TrailLogging.json and TrailLogging.yml. In the examples, the ALIYUN::ACTIONTRAIL::Trail and ALIYUN::ACTIONTRAIL::TrailLogging resource types are involved.

3.2. ALIYUN::ACTIONTRAIL::TrailLogging

ALIYUN::ACTIONTRAIL::TrailLogging is used to enable or disable trail logging.

Syntax

```
{
  "Type": "ALIYUN::ACTIONTRAIL::TrailLogging",
  "Properties": {
    "Name": String,
    "Enable": Boolean
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Name	String	Yes	No	The name of the trail to be enabled.	None
Enable	Boolean	Yes	Yes	Specifies whether to enable trail logging.	None

Response parameters

Fn::GetAtt

- IsLogging: indicates whether the trail logging service is enabled.
- LatestDeliveryError: the most recent error that the trail encountered when attempting to deliver log files.
- LatestDeliveryTime: the date and time of the most recent successful delivery of a log file.
- StartLoggingTime: the date and time of the most recent trail enabled by the user.
- StopLoggingTime: the date and time of the most recent trail disabled by the user.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "TrailLogging": {
      "Type": "ALIYUN::ACTIONTRAIL::TrailLogging",
      "Properties": {
        "Name": "test-trail",
        "Enable": true
      }
    }
  }
}
```

4.ADB

5.ASM

5.1. ALIYUN::ASM::ServiceMesh

ALIYUN::ASM::ServiceMesh is used to create an Alibaba Cloud Service Mesh (ASM) instance.

Syntax

```
{
  "Type": "ALIYUN::ASM::ServiceMesh",
  "Properties": {
    "EnableAudit": Boolean,
    "OPA": Map,
    "IstioVersion": String,
    "ApiServerPublicEip": Boolean,
    "LocalityLoadBalancing": Boolean,
    "Telemetry": Boolean,
    "OutboundTrafficPolicy": String,
    "AuditProject": String,
    "TraceSampling": Number,
    "Name": String,
    "Proxy": Map,
    "VpcId": String,
    "PilotPublicEip": Boolean,
    "IncludeIPRanges": String,
    "VSwitches": List,
    "Tracing": Boolean,
    "CustomizedZipkin": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
EnableAudit	Boolean	No	Yes	Specifies whether to enable the mesh audit feature.	Default value: false. Valid values: • true • false **Note** To enable this feature, make sure that Log Service is activated.
OPA	Map	No	Yes	The information about the Open Policy Agent (OPA) plug-in.	For more information, see OPA properties.
IstioVersion	String	No	No	The Istio version of the ASM instance.	None
ApiServerPublicEip	Boolean	No	No	Specifies whether to expose the API server to the Internet.	Default value: false. Valid values: • true • false
LocalityLoadBalancing	Boolean	No	Yes	Specifies whether to route traffic to the nearest instance.	Default value: false. Valid values: • true • false
Telemetry	Boolean	No	Yes	Specifies whether to enable Prometheus monitoring.	We recommend that you use Prometheus Service of Application Real-Time Monitoring Service (ARMS).

Property	Type	Required	Editable	Description	Constraint
OutboundTrafficPolicy	String	No	Yes	The outbound traffic policy.	Valid values: • ALLOW_ANY • REGISTRY_ONLY
AuditProject	String	No	Yes	The name of the Log Service project that is used for mesh audit.	Default value: mesh-log-{ASM instance ID}.
TraceSampling	Number	No	Yes	The sampling percentage of tracing analysis.	None
Name	String	No	No	The name of the ASM instance.	None
Proxy	Map	No	Yes	The proxy configurations.	For more information, see Proxy properties.
VpcId	String	Yes	No	The ID of the VPC.	None
PilotPublicEip	Boolean	No	No	Specifies whether to expose Istio Pilot to the Internet.	Default value: false. Valid values: • true • false
IncludeIPRanges	String	No	Yes	The IP addresses that are denied to access external services.	None
`VSwitches`	List	Yes	No	The IDs of one or more vSwitches.	None
Tracing	Boolean	No	Yes	Specifies whether to enable the tracing analysis feature.	Default value: false. Valid values: • true • false **Note** To enable this feature, make sure that Tracing Analysis is activated.
CustomizedZipkin	Boolean	No	Yes	Specifies whether to enable self-managed Zipkin.	Valid values: • true • false

OPA syntax

```
"OPA": {
  "OPARequestCPU": String,
  "OpenAgentPolicy": Boolean,
  "OPALogLevel": String,
  "OPALimitCPU": String,
  "OPALimitMemory": String,
  "OPARequestMemory": String
}
```

OPA properties

Property	Type	Required	Editable	Description	Constraint
OPARequestCPU	String	No	Yes	The number of CPU cores that are requested by the OPA container.	None

Property	Type	Required	Editable	Description	Constraint
OpenAgentPolicy	Boolean	No	Yes	Specifies whether to enable the OPA plug-in.	Default value: false. Valid values: • true • false
OPALogLevel	String	No	Yes	The log level of the OPA container.	None
OPALimitCPU	String	No	Yes	The maximum number of CPU cores that are available to the OPA container.	None
OPALimitMemory	String	No	Yes	The maximum size of the memory that is available to the OPA container.	None
OPARequestMemory	String	No	Yes	The size of the memory that is requested by the OPA container.	None

Proxy syntax

```
"Proxy": {
  "ClusterDomain": String,
  "ProxyLimitCPU": String,
  "ProxyLimitMemory": String,
  "ProxyRequestCPU": String,
  "ProxyRequestMemory": String
}
```

Proxy properties

Property	Type	Required	Editable	Description	Constraint
ClusterDomain	String	No	Yes	The domain of the cluster.	None
ProxyLimitCPU	String	No	Yes	The maximum number of CPU cores that are available to the proxy container.	None
ProxyLimitMemory	String	No	Yes	The maximum size of the memory that is available to the proxy container.	None
ProxyRequestCPU	String	No	Yes	The number of CPU cores that are requested by the proxy container.	None
ProxyRequestMemory	String	No	Yes	The size of the memory that is requested by the proxy container.	None

Response parameters

Fn::GetAtt

ServiceMeshId: The ID of the ASM instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "OPA": {
      "Type": "Json",
      "Description": "OPA settings."
    },
    "EnableAudit": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable the mesh audit feature. To enable this feature, make sure\nthat you have acti
vated Alibaba Cloud Log Service.\nValid values: true and false. Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "IstioVersion": {
      "Type": "String",
      "Description": "The Istio version of the ASM instance."
    },
    "ApiServerPublicEip": {
      "Type": "Boolean",
      "Description": "Specifies whether to expose the API server to the Internet.\nValid values: true and false. Default value:
false.\nIf you do not set this parameter, the API server of clusters added to the ASM instance\ncannot be accessed from the Int
ernet.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "LocalityLoadBalancing": {
      "Type": "Boolean",
      "Description": "Specifies whether to route traffic to the nearest instance.\nValid values: true and false. Default value:
false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Telemetry": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable Prometheus monitoring. We recommend that you use Application Real-Time Monito
ring Service (ARMS).",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "OutboundTrafficPolicy": {
      "Type": "String",
      "Description": "The outbound traffic policy of the ASM instance."
    },
    "AuditProject": {
      "Type": "String",
      "Description": "The name of the Log Service project that is used for mesh audit.\nDefault value: mesh-log-{meshId}."
    },
    "TraceSampling": {
      "Type": "Number",
      "Description": "The sampling percentage of tracing."
    },
    "Name": {
      "Type": "String",
```

```
      "Description": "The name of the ASM instance."
    },
    "Proxy": {
      "Type": "Json",
      "Description": "Proxy settings. "
    },
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the virtual private cloud (VPC)."
    },
    "PilotPublicEip": {
      "Type": "Boolean",
      "Description": "Specifies whether to expose Istio Pilot to the Internet.\nValid values: true and false. Default value: fa
lse.\nIf you do not set this parameter, only clusters in the same VPC as the ASM instance\ncan access Istio Pilot of the instan
ce.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "IncludeIPRanges": {
      "Type": "String",
      "Description": "The Classless Inter-Domain Routing (CIDR) block in the ASM instance that are denied\nto access external s
ervices."
    },
    "VSwitches": {
      "Type": "CommaDelimitedList",
      "Description": "The ID of the vSwitch, eg: [\"vsw-xzegf5dndkbf4m6eg****\"]"
    },
    "Tracing": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable the tracing feature. To enable this feature, make sure\nthat you have activat
ed Alibaba Cloud Tracing Analysis.\nValid values: true and false. Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "CustomizedZipkin": {
      "Type": "Boolean",
      "Description": "Specifies whether to use a user-created Zipkin system.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    }
  },
  "Resources": {
    "ServiceMesh": {
      "Type": "ALIYUN::ASM::ServiceMesh",
      "Properties": {
        "OPA": {
          "Ref": "OPA"
        },
        "EnableAudit": {
          "Ref": "EnableAudit"
        },
        "IstioVersion": {
          "Ref": "IstioVersion"
        },
        "ApiServerPublicEip": {
          "Ref": "ApiServerPublicEip"
        },
        "LocalityLoadBalancing": {
          "Ref": "LocalityLoadBalancing"
        },
        "Telemetry": {
          "Ref": "Telemetry"
```

```
        },
        "OutboundTrafficPolicy": {
          "Ref": "OutboundTrafficPolicy"
        },
        "AuditProject": {
          "Ref": "AuditProject"
        },
        "TraceSampling": {
          "Ref": "TraceSampling"
        },
        "Name": {
          "Ref": "Name"
        },
        "Proxy": {
          "Ref": "Proxy"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "PilotPublicEip": {
          "Ref": "PilotPublicEip"
        },
        "IncludeIPRanges": {
          "Ref": "IncludeIPRanges"
        },
        "VSwitches": {
          "Ref": "VSwitches"
        },
        "Tracing": {
          "Ref": "Tracing"
        },
        "CustomizedZipkin": {
          "Ref": "CustomizedZipkin"
        }
      }
    }
  },
  "Outputs": {
    "ServiceMeshId": {
      "Description": "The ID of the ASM instance.",
      "Value": {
        "Fn::GetAtt": [
          "ServiceMesh",
          "ServiceMeshId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  OPA:
    Type: Json
    Description: OPA settings.
  EnableAudit:
    Type: Boolean
    Description: >-
      Specifies whether to enable the mesh audit feature. To enable this
      feature, make sure
      that you have activated Alibaba Cloud Log Service.
      Valid values: true and false. Default value: false.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  IstioVersion:
    Type: String
    Description: The Istio version of the ASM instance.
  ApiServerPublicEip:
    Type: Boolean
```

```
    Description: >-
      Specifies whether to expose the API server to the Internet.
      Valid values: true and false. Default value: false.
      If you do not set this parameter, the API server of clusters added to the
      ASM instance
      cannot be accessed from the Internet.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  LocalityLoadBalancing:
    Type: Boolean
    Description: |-
      Specifies whether to route traffic to the nearest instance.
      Valid values: true and false. Default value: false.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Telemetry:
    Type: Boolean
    Description: >-
      Specifies whether to enable Prometheus monitoring. We recommend that you
      use Application Real-Time Monitoring Service (ARMS).
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  OutboundTrafficPolicy:
    Type: String
    Description: The outbound traffic policy of the ASM instance.
  AuditProject:
    Type: String
    Description: |-
      The name of the Log Service project that is used for mesh audit.
      Default value: mesh-log-{meshId}.
  TraceSampling:
    Type: Number
    Description: The sampling percentage of tracing.
  Name:
    Type: String
    Description: The name of the ASM instance.
  Proxy:
    Type: Json
    Description: 'Proxy settings. '
  VpcId:
    Type: String
    Description: The ID of the virtual private cloud (VPC).
  PilotPublicEip:
    Type: Boolean
    Description: >-
      Specifies whether to expose Istio Pilot to the Internet.
      Valid values: true and false. Default value: false.
      If you do not set this parameter, only clusters in the same VPC as the ASM
      instance
      can access Istio Pilot of the instance.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  IncludeIPRanges:
    Type: String
    Description: >-
      The Classless Inter-Domain Routing (CIDR) block in the ASM instance that
      are denied
      to access external services.
  VSwitches:
    Type: CommaDelimitedList
    Description: 'The ID of the vSwitch, eg: ["vsw-xzegf5dndkbf4m6eg****"]'
  Tracing:
```

```
    Type: Boolean
    Description: >-
      Specifies whether to enable the tracing feature. To enable this feature,
      make sure
      that you have activated Alibaba Cloud Tracing Analysis.
      Valid values: true and false. Default value: false.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  CustomizedZipkin:
    Type: Boolean
    Description: Specifies whether to use a user-created Zipkin system.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
Resources:
  ServiceMesh:
    Type: 'ALIYUN::ASM::ServiceMesh'
    Properties:
      OPA:
        Ref: OPA
      EnableAudit:
        Ref: EnableAudit
      IstioVersion:
        Ref: IstioVersion
      ApiServerPublicEip:
        Ref: ApiServerPublicEip
      LocalityLoadBalancing:
        Ref: LocalityLoadBalancing
      Telemetry:
        Ref: Telemetry
      OutboundTrafficPolicy:
        Ref: OutboundTrafficPolicy
      AuditProject:
        Ref: AuditProject
      TraceSampling:
        Ref: TraceSampling
      Name:
        Ref: Name
      Proxy:
        Ref: Proxy
      VpcId:
        Ref: VpcId
      PilotPublicEip:
        Ref: PilotPublicEip
      IncludeIPRanges:
        Ref: IncludeIPRanges
      VSwitches:
        Ref: VSwitches
      Tracing:
        Ref: Tracing
      CustomizedZipkin:
        Ref: CustomizedZipkin
Outputs:
  ServiceMeshId:
    Description: The ID of the ASM instance.
    Value:
      'Fn::GetAtt':
        - ServiceMesh
        - ServiceMeshId
```

6.API Gateway

6.1. ALIYUN::ApiGateway::Api

ALIYUN::ApiGateway::Api is used to create an API operation.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::Api",
  "Properties": {
    "ErrorCodeSamples": List,
    "Description": String,
    "ServiceConfig": Map,
    "SystemParameters": List,
    "ServiceParameters": List,
    "OpenIdConnectConfig": Map,
    "RequestConfig": Map,
    "AuthType": String,
    "Visibility": String,
    "Tags": List,
    "ResultSample": String,
    "ResultType": String,
    "ApiName": String,
    "FailResultSample": String,
    "DisableInternet": Boolean,
    "ForceNonceCheck": Boolean,
    "ConstParameters": List,
    "GroupId": String,
    "ServiceParametersMap": List,
    "RequestParameters": List,
    "AppCodeAuthType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ServiceConfig	Map	Yes	Yes	The configuration items of API requests sent by API Gateway to the backend service.	For more information, see the ServiceConfig properties section in this topic.
RequestConfig	Map	Yes	Yes	The configuration items of API requests sent by the consumer to API Gateway.	For more information, see the RequestConfig properties section in this topic.
Visibility	String	Yes	Yes	Specifies whether the API operation is public.	Valid values: • PUBLIC: The API operation is public. • PRIVATE: The API operation is not public.
ResultSample	String	Yes	Yes	The sample response from the backend service.	None
ResultType	String	Yes	Yes	The format of the response from the backend service.	Default value: JSON. Valid values: • JSON • TEXT • BINARY • XML • PASSTHROUGH

Property	Type	Required	Editable	Description	Constraint
ApiName	String	Yes	Yes	The name of the API operation.	The name must be 4 to 50 characters in length. The name must start with a letter and can contain letters, digits, and underscores (_). **Note** The name must be unique within an API group.
GroupId	String	Yes	No	The ID of the API group.	None
ErrorCodeSamples	List	No	Yes	The sample error codes returned by the backend service.	For more information, see the ErrorCodeSamples properties section in this topic.
Description	String	No	Yes	The description of the API operation.	The description can be up to 180 characters in length.
DisableInternet	Boolean	No	Yes	Specifies whether to disable calls to the API operation over the Internet.	Valid values: • true • false
ForceNonceCheck	Boolean	No	Yes	Specifies whether to forcibly check X-Ca-Nonce when the request is sent.	Valid values: • true • false
Tags	List	No	Yes	The tags of the API operation.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.
SystemParameters	List	No	Yes	The system parameters of the API operation.	For more information, see the SystemParameters properties section in this topic.
ServiceParameters	List	No	Yes	The parameters of API requests sent by API Gateway to the backend service.	For more information, see the ServiceParameters properties section in this topic.
OpenIdConnectConfig	Map	No	Yes	The configuration items of the third-party OpenID Connect authentication method.	For more information, see the OpenIdConnectConfig properties section in this topic.

Property	Type	Required	Editable	Description	Constraint
AuthType	String	No	Yes	The security authentication method of the API operation.	Valid values: • APP: Only authorized applications can call the API operation. • ANONYMOUS: The API operation can be called anonymously. API Gateway does not authenticate callers and cannot set user-specific throttling policies. Before you add an API group that contains such API operations to Alibaba Cloud Marketplace, we recommend that you move the API operations to another API group, set their Visibility to PRIVATE, or set their AuthType to APP. • APPOPENID: The OpenID Connect authentication method is used. Only applications authorized by OpenID Connect can call the API operation. If this method is specified, the OpenIdConnectConfig parameter is required.
ServiceParametersMap	List	No	Yes	The mappings between parameters of requests sent by the consumer to API Gateway and parameters of requests sent by API Gateway to the backend service.	For more information, see the ServiceParametersMap properties section in this topic.
FailResultSample	String	No	Yes	The sample error response from the backend service.	None
RequestParameters	List	No	Yes	The parameters of API requests sent by the consumer to API Gateway.	For more information, see the RequestParameters properties section in this topic.
ConstParameters	List	No	Yes	The constant parameters of the specified API operation.	For more information, see the ConstParameters properties section in this topic.
AppCodeAuthType	String	No	Yes	The AppCode authentication method.	This parameter takes effect only when the AuthType parameter is set to APP. Default value: DEFAULT. Valid values: • DEFAULT: AppCode authentication is configured along with the API group. • DISABLE: AppCode authentication is disabled. • HEADER: AppCode can be placed in the Header parameter for authentication. • HEADER_QUERY: AppCode can be placed in the Header or Query parameter for authentication.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

ErrorCodeSamples syntax

```
"ErrorCodeSamples": [
  {
    "Message": String,
    "Code": String,
    "Description": String
  }
]
```

ErrorCodeSamples properties

Property	Type	Required	Editable	Description	Constraint
Message	String	Yes	Yes	The error message.	None
Code	String	Yes	Yes	The error code.	None
Description	String	No	Yes	The error description.	None

ServiceConfig syntax

```
"ServiceConfig": {
  "ServiceTimeOut": Integer,
  "FunctionComputeConfig": Map,
  "VpcConfig": Map,
  "MockResult": String,
  "MockStatusCode": Integer,
  "ServiceHttpMethod": String,
  "ServiceProtocol": String,
  "ServiceVpcEnable": String,
  "ServiceAddress": String,
  "ContentTypeValue": String,
  "MockHeaders": List,
  "ContentTypeCatagory": String,
  "ServicePath": String,
  "Mock": String
}
```

ServiceConfig properties

Property	Type	Required	Editable	Description	Constraint
FunctionComputeConfig	Map	No	Yes	The configuration of Function Compute as the backend service.	None For more information, see the FunctionComputeConfig properties section in this topic.
MockStatusCode	Integer	No	Yes	The status code.	The status code returned in an HTTP/1.1 compatible format.
MockHeaders	List	No	Yes	The mock response headers defined when the mock mode is enabled.	None For more information, see the MockHeaders properties section in this topic.
ServiceTimeOut	Integer	No	Yes	The timeout period of the backend service.	Unit: milliseconds.
ServiceAddress	String	No	Yes	The endpoint of the backend service.	If the complete backend service endpoint is `http://example.com:8080/object/add?key1=value1&key2=value2`, the value of ServiceAddress is `http://example.com:8080`.
ServicePath	String	No	Yes	The path of the backend service.	If the complete backend service endpoint is `http://example.com:8080/object/add?key1=value1&key2=value2`, the value of ServicePath is `/object/add`.
ServiceProtocol	String	No	Yes	The protocol of the backend service.	Valid values: • HTTP • HTTPS • FunctionCompute
ServiceVpcEnable	String	No	Yes	Specifies whether to enable the VPC service.	Default: FALSE. Valid values: • TRUE • FALSE
ServiceHttpMethod	String	No	Yes	The HTTP method used to call the backend service.	Default value: GET. Valid values: • GET • POST • DELETE • PUT • HEAD • TRACE • PATCH • CONNECT • OPTIONS • ANY
ContentTypeCatagory	String	No	Yes	The ContentType header type used when you call the backend service over HTTP.	Default value: CLIENT. Valid values: • DEFAULT: the default header type in API Gateway. • CUSTOM: a custom header type. • CLIENT: the ContentType header type of the client.

Property	Type	Required	Editable	Description	Constraint
ContentTypeValue	String	No	Yes	The value of the ContentType header when the ServiceProtocol parameter is set to HTTP and the ContentTypeCategory parameter is set to DEFAULT or CUSTOM.	None
Mock	String	No	Yes	Specifies whether to use the mock mode.	Default value: FALSE. Valid values: • TRUE • FALSE
MockResult	String	No	Yes	The result returned when the mock mode is enabled.	None
VpcConfig	Map	No	Yes	The VPC configurations.	For more information, see the VpcConfig properties section in this topic.

VpcConfig syntax

```
"VpcConfig": {
  "InstanceId": String,
  "VpcId": String,
  "Port": Integer
}
```

VpcConfig properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	Yes	The ID of the instance in the VPC.	Only ECS instances and SLB instances are supported.
VpcId	String	Yes	Yes	The ID of the VPC.	None
Port	Integer	Yes	Yes	The port number corresponding to the instance.	None

SystemParameters syntax

```
"SystemParameters": [
  {
    "DemoValue": String,
    "ParameterName": String,
    "ServiceParameterName": String,
    "Location": String,
    "Description": String
  }
]
```

SystemParameters properties

Property	Type	Required	Editable	Description	Constraint
Location	String	Yes	Yes	The location of the parameter.	None

Property	Type	Required	Editable	Description	Constraint
ParameterName	String	Yes	Yes	The name of the system parameter.	Valid values: • CaClientIp • CaDomain • CaRequestHandleTime • CaAppId • CaRequestId • CaHttpSchema • CaProxy
ServiceParameterName	String	Yes	Yes	The name of the backend service parameter.	None
Description	String	No	Yes	The description of the parameter.	None
DemoValue	String	No	Yes	The sample value of the system parameter.	None

ServiceParameters syntax

```
"ServiceParameters": [
  {
    "ParameterType": String,
    "Location": String,
    "ServiceParameterName": String
  }
]
```

ServiceParameters properties

Property	Type	Required	Editable	Description	Constraint
ParameterType	String	Yes	Yes	The data type of the backend service parameter.	Valid values: • STRING • NUMBER • BOOLEAN
Location	String	Yes	Yes	The location of the parameter.	Valid values: • BODY • HEAD • QUERY • PATH
ServiceParameterName	String	Yes	Yes	The name of the backend service parameter.	None

OpenIdConnectConfig syntax

```
"OpenIdConnectConfig": {
  "OpenIdApiType": String,
  "PublicKey": String,
  "PublicKeyId": String,
  "IdTokenParamName": String
}
```

OpenIdConnectConfig properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
OpenIdApiType	String	Yes	Yes	The authorization type of an OpenID Connect API.	Valid values: • IDTOKEN: specifies an authorization API, which is used to issue a token. If you set this parameter to IDTOKEN, the PublicKeyId and PublicKey parameters are required. • BUSINESS: specifies a business API, which is used to verify a token. If you set this parameter to BUSINESS, the IdTokenParamName parameter is required.
PublicKey	String	No	Yes	The public key used for token verification.	None
PublicKeyId	String	No	Yes	The ID of the public key.	None
IdTokenParamName	String	No	Yes	The name of the parameter that corresponds to the token.	None

RequestConfig syntax

```
"RequestConfig": {
  "RequestMode": String,
  "RequestPath": String,
  "PostBodyDescription": String,
  "RequestProtocol": String,
  "RequestHttpMethod": String,
  "BodyFormat": String
}
```

RequestConfig properties

Property	Type	Required	Editable	Description	Constraint
RequestMode	String	Yes	Yes	The request mode.	Default value: MAPPING. Valid values: • MAPPING: request parameter mapping • PASSTHROUGH: request parameter passthrough
RequestPath	String	Yes	Yes	The API request path.	If the complete API endpoint is `http://example.com:8080/object/add?key1=value1&key2=value2`, the API request path is `/object/add`.
RequestProtocol	String	Yes	Yes	The protocol type supported by the API operation.	Valid values: • HTTP • HTTPS Separate multiple protocol types with commas (,). Example: `HTTP,HTTPS`.
RequestHttpMethod	String	Yes	Yes	The API request method.	Default value: GET. Valid values: • GET • POST • DELETE • PUT • HEADER • TRACE • PATCH • OPTIONS

Property	Type	Required	Editable	Description	Constraint
PostBodyDescription	String	No	Yes	The description of the request body.	None
BodyFormat	String	No	Yes	The method used to transmit data to the server when a POST, PUT, or PATCH request is sent.	Valid values: • FORM • STREAM This parameter takes effect only when the RequestMode parameter is set to MAPPING.

ServiceParametersMap syntax

```
"ServiceParametersMap": [
  {
    "RequestParameterName": String,
    "ServiceParameterName": String
  }
]
```

ServiceParametersMap properties

Property	Type	Required	Editable	Description	Constraint
RequestParameterName	String	Yes	Yes	The name of the frontend request parameter.	It must be included in RequestParameters and must match ApiParameterName in RequestParameters data.
ServiceParameterName	String	Yes	Yes	The name of the backend service parameter.	None

RequestParameters syntax

```
"RequestParameters": [
  {
    "ParameterType": String,
    "Required": String,
    "Description": String,
    "DemoValue": String,
    "MinLength": Integer,
    "DefaultValue": String,
    "RegularExpression": String,
    "MaxValue": Integer,
    "MinValue": Integer,
    "JsonScheme": String,
    "ApiParameterName": String,
    "Location": String,
    "DocShow": String,
    "MaxLength": Integer,
    "EnumValue": String,
    "DocOrder": Integer
  }
]
```

RequestParameters properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ParameterType	String	Yes	No	The type of the request parameter.	Valid values: • String • Int • Long • Float • Double • Boolean
Required	String	Yes	Yes	Specifies whether the request parameter is required.	Valid values: • REQUIRED • OPTIONAL
ApiParameterName	String	Yes	Yes	The name of the request parameter.	None
Location	String	Yes	Yes	The location of the parameter.	Valid values: • BODY • HEAD • QUERY • PATH
RegularExpression	String	No	Yes	The regular expression for parameter validation. This parameter takes effect only when the ParameterType parameter is set to String.	None
Description	String	No	Yes	The description of the parameter.	None
DefaultValue	String	No	Yes	The default value of the parameter.	None
MaxLength	Integer	No	Yes	The maximum length of the parameter. This parameter takes effect only when the ParameterType parameter is set to String.	None
MinLength	Integer	No	Yes	The minimum length of the parameter. This parameter takes effect only when the ParameterType parameter is set to String.	None
MaxValue	Integer	No	Yes	The maximum value of the parameter. This parameter takes effect only when the ParameterType parameter is set to Int, Long, Float, or Double.	None

Property	Type	Required	Editable	Description	Constraint
MinValue	Integer	No	Yes	The minimum value of the parameter. This parameter takes effect only when the ParameterType parameter is set to Int, Long, Float, or Double.	None
EnumValue	String	No	Yes	The hash values that can be entered when the ParameterType parameter is set to Int, Long, Float, Double, or String.	Separate multiple values with commas (,), such as `1,2,3,4,9` and `A,B,C,E,F`.
JsonScheme	String	No	Yes	The JSON schema used for JSON validation. This parameter takes effect only when the ParameterType parameter is set to String.	None
DocOrder	Integer	No	Yes	The sequence of the parameter in the document.	None
DocShow	String	No	Yes	Specifies whether the parameter is public in the SDK or document generated by API Gateway.	Valid values: • PUBLIC • PRIVATE
DemoValue	String	No	Yes	An example value of the parameter.	None

ConstParameters syntax

```
"ConstParameters": [
  {
    "ConstValue": String,
    "ServiceParameterName": String,
    "Description": String,
    "Location": String
  }
]
```

ConstParameters properties

Property	Type	Required	Editable	Description	Constraint
Location	String	Yes	Yes	The location of the parameter.	Default value: HEAD. Valid values: • BODY • HEAD
ConstValue	String	Yes	Yes	The value of the parameter.	None
ServiceParameterName	String	Yes	Yes	The name of the backend service parameter.	None

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the parameter.	None

FunctionComputeConfig syntax

```
"FunctionComputeConfig": {
  "FcRegionId": String,
  "RoleArn": String,
  "ServiceName": String,
  "FunctionName": String,
  "Qualifier": String,
  "ContentTypeValue": String,
  "ContentTypeCatagory": String,
  "FcBaseUrl": String,
  "FcType": String,
  "Method": String,
  "OnlyBusinessPath": Boolean,
  "Path": String
}
```

FunctionComputeConfig properties

Property	Type	Required	Editable	Description	Constraint
FcRegionId	String	No	Yes	The ID of the region where Function Compute is provided.	None
RoleArn	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the RAM role to be assumed by API Gateway to access Function Compute.	None
ServiceName	String	No	Yes	The service name defined in Function Compute.	None
FunctionName	String	No	Yes	The function name defined in Function Compute.	None
Qualifier	String	No	Yes	The alias of Function Compute.	None
ContentTypeCatagory	String	No	Yes	The ContentType header type used when you call the backend service over HTTP.	Default value: CLIENT. Valid values: • DEFAULT: the default header type in API Gateway. • CUSTOM: a custom header type. • CLIENT: the ContentType header type of the client.
ContentTypeValue	String	No	Yes	The value of the ContentType header when the ServiceProtocol parameter is set to HTTP and the ContentTypeCatagory parameter is set to DEFAULT or CUSTOM.	None

Property	Type	Required	Editable	Description	Constraint
FcBaseUrl	String	No	Yes	The URL of the trigger.	The URL starts with `http://` or `https://`.
FcType	String	No	Yes	The type of the function.	Default value: FCEvent. Valid values: • FCEvent • HttpTrigger
Method	String	No	Yes	The request method.	Default value: GET. Valid values: • GET • POST • DELETE • PUT • HEAD • PATCH • OPTIONS • ANY
OnlyBusinessPath	Boolean	No	Yes	Specifies whether to pass only the custom backend request path to the backend.	Valid values: • true • false
Path	String	No	Yes	The backend request path.	Parameters must be enclosed in square brackets. Example: `/ getUserInfo / [userId]`.

MockHeaders syntax

```
"MockHeaders": [
  {
    "HeaderValue": String,
    "HeaderName": String
  }
]
```

MockHeaders properties

Property	Type	Required	Editable	Description	Constraint
HeaderName	String	Yes	Yes	The name of the response header.	None
HeaderValue	String	Yes	Yes	The value of the response header.	None

Response parameters

Fn::GetAtt

ApiId: The ID of the API operation.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "RequestConfig": {
      "Type": "Json",
      "Description": "The configuration of the request"
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the API, less than 180 characters."
    },
    "ResultSample": {
```

```
      "Type": "String",
      "Description": "The sample of the result."
    },
    "DisableInternet": {
      "Type": "Boolean",
      "Description": "Set DisableInternet to true, only support intranet to call API. \nSet DisableInternet to false, then the
call is not restricted. \n",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "ApiName": {
      "Type": "String",
      "Description": "The name of the API.Need [4, 50] Chinese\\English\\Number characters or \"_\",and should start with Chine
se/English character."
    },
    "ForceNonceCheck": {
      "Type": "Boolean",
      "Description": "Set ForceNonceCheck to true, compulsorily check X-Ca-Nonce when requesting, \nthis is the unique identifi
er of the request, generally using UUID to identify. \nThe API gateway will verify the validity of this parameter after receivi
ng this parameter. \nThe same value can only be used once within 15 minutes. It can effectively prevent API replay attacks.\nSe
t ForceNonceCheck to false, then no check. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "ResultType": {
      "Type": "String",
      "Description": "The format of service's response, \"JSON\", \"TEXT\", \"BINARY\", \"XML\", \"HTML\" or \"PASSTHROUGH\". D
efault is \"JSON\".",
      "AllowedValues": [
        "JSON",
        "TEXT",
        "BINARY",
        "XML",
        "HTML",
        "PASSTHROUGH"
      ],
      "Default": "JSON"
    },
    "FailResultSample": {
      "Type": "String",
      "Description": "The sample of the fail result."
    },
    "ErrorCodeSamples": {
      "Type": "Json",
      "Description": "The Error Code samples."
    },
    "GroupId": {
      "Type": "String",
      "Description": "The id of the Group."
    },
    "ServiceParametersMap": {
      "Type": "Json",
      "Description": "The mapping relation between (request parameters\\const parameters\\system parameters) and service parame
ters."
    },
    "RequestParameters": {
      "Type": "Json",
      "Description": "The request parameters.",
      "Default": []
    },
    "AppCodeAuthType": {
      "Type": "String",
      "Description": "When AuthType is APP authentication, the optional values are as follows: If not passed, the default value
is DEFAULT:\nDEFAULT: Default (set by group).\nDISABLE: Not allowed\nHEADER: Allow AppCode header authentication\nHEADER_QUERY:
Allow AppCode header and query authentication",
      "AllowedValues": [
        "DEFAULT"
```

```
        "DEFAULT",
        "DISABLE",
        "HEADER",
        "HEADER_QUERY"
      ]
    },
    "ServiceConfig": {
      "Type": "Json",
      "Description": "The configuration of the service."
    },
    "ConstParameters": {
      "Type": "Json",
      "Description": "The const parameters."
    },
    "SystemParameters": {
      "Type": "Json",
      "Description": "The system parameters."
    },
    "OpenIdConnectConfig": {
      "Type": "Json",
      "Description": "The configuration of the open id."
    },
    "Visibility": {
      "Type": "String",
      "Description": "Whether to make the API public. \"PUBLIC\" or \"PRIVATE\".",
      "AllowedValues": [
        "PUBLIC",
        "PRIVATE"
      ]
    },
    "ServiceParameters": {
      "Type": "Json",
      "Description": "The service parameters."
    },
    "AuthType": {
      "Type": "String",
      "Description": "Type of authorization of the API . \"APP\",\"ANONYMOUS\", or \"APPOPENID\"",
      "AllowedValues": [
        "APP",
        "ANONYMOUS",
        "APPOPENID"
      ]
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "API": {
      "Type": "ALIYUN::ApiGateway::Api",
      "Properties": {
        "RequestConfig": {
          "Ref": "RequestConfig"
        },
        "Description": {
          "Ref": "Description"
        },
        "ResultSample": {
          "Ref": "ResultSample"
        },
        "DisableInternet": {
          "Ref": "DisableInternet"
        },
        "ApiName": {
          "Ref": "ApiName"
        },
        "ForceNonceCheck": {
          "Ref": "ForceNonceCheck"
        },
        "ResultType": {
          "Ref": "ResultType"
        },
```

```
        },
        "FailResultSample": {
          "Ref": "FailResultSample"
        },
        "ErrorCodeSamples": {
          "Ref": "ErrorCodeSamples"
        },
        "GroupId": {
          "Ref": "GroupId"
        },
        "ServiceParametersMap": {
          "Ref": "ServiceParametersMap"
        },
        "RequestParameters": {
          "Ref": "RequestParameters"
        },
        "AppCodeAuthType": {
          "Ref": "AppCodeAuthType"
        },
        "ServiceConfig": {
          "Ref": "ServiceConfig"
        },
        "ConstParameters": {
          "Ref": "ConstParameters"
        },
        "SystemParameters": {
          "Ref": "SystemParameters"
        },
        "OpenIdConnectConfig": {
          "Ref": "OpenIdConnectConfig"
        },
        "Visibility": {
          "Ref": "Visibility"
        },
        "ServiceParameters": {
          "Ref": "ServiceParameters"
        },
        "AuthType": {
          "Ref": "AuthType"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "ApiId": {
      "Description": "The id of the API.",
      "Value": {
        "Fn::GetAtt": [
          "API",
          "ApiId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ApiName:
    Description: The name of the API.Need [4, 50] Chinese\English\Number characters
      or "_",and should start with Chinese/English character.
    Type: String
  AppCodeAuthType:
    AllowedValues:
    - DEFAULT
    - DISABLE
    - HEADER
    - HEADER_QUERY
```

```
    Description: 'When AuthType is APP authentication, the optional values are as
      follows: If not passed, the default value is DEFAULT:
      DEFAULT: Default (set by group).
      DISABLE: Not allowed
      HEADER: Allow AppCode header authentication
      HEADER_QUERY: Allow AppCode header and query authentication'
    Type: String
  AuthType:
    AllowedValues:
    - APP
    - ANONYMOUS
    - APPOPENID
    Description: Type of authorization of the API . "APP","ANONYMOUS", or "APPOPENID"
    Type: String
  ConstParameters:
    Description: The const parameters.
    Type: Json
  Description:
    Description: Description of the API, less than 180 characters.
    Type: String
  DisableInternet:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "Set DisableInternet to true, only support intranet to call API.\
      \ \nSet DisableInternet to false, then the call is not restricted. \n"
    Type: Boolean
  ErrorCodeSamples:
    Description: The Error Code samples.
    Type: Json
  FailResultSample:
    Description: The sample of the fail result.
    Type: String
  ForceNonceCheck:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "Set ForceNonceCheck to true, compulsorily check X-Ca-Nonce when\
      \ requesting, \nthis is the unique identifier of the request, generally using\
      \ UUID to identify. \nThe API gateway will verify the validity of this parameter\
      \ after receiving this parameter. \nThe same value can only be used once within\
      \ 15 minutes. It can effectively prevent API replay attacks.\nSet ForceNonceCheck\
      \ to false, then no check. "
    Type: Boolean
  GroupId:
    Description: The id of the Group.
    Type: String
  OpenIdConnectConfig:
    Description: The configuration of the open id.
    Type: Json
  RequestConfig:
    Description: The configuration of the request
    Type: Json
  RequestParameters:
    Default: []
    Description: The request parameters.
    Type: Json
  ResultSample:
    Description: The sample of the result.
    Type: String
  ResultType:
    AllowedValues:
    - JSON
    - TEXT
    - BINARY
    - XML
    - HTML
    - PASSTHROUGH
    Default: JSON
    Description: The format of service's response, "JSON", "TEXT", "BINARY", "XML",
      "HTML", or "PASSTHROUGH". Default is "JSON".
```

```
      "HTML" or "PASSTHROUGH". Default is "JSON".
    Type: String
  ServiceConfig:
    Description: The configuration of the service.
    Type: Json
  ServiceParameters:
    Description: The service parameters.
    Type: Json
  ServiceParametersMap:
    Description: The mapping relation between (request parameters\const parameters\system
      parameters) and service parameters.
    Type: Json
  SystemParameters:
    Description: The system parameters.
    Type: Json
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  Visibility:
    AllowedValues:
    - PUBLIC
    - PRIVATE
    Description: Whether to make the API public. "PUBLIC" or "PRIVATE".
    Type: String
Resources:
  API:
    Properties:
      ApiName:
        Ref: ApiName
      AppCodeAuthType:
        Ref: AppCodeAuthType
      AuthType:
        Ref: AuthType
      ConstParameters:
        Ref: ConstParameters
      Description:
        Ref: Description
      DisableInternet:
        Ref: DisableInternet
      ErrorCodeSamples:
        Ref: ErrorCodeSamples
      FailResultSample:
        Ref: FailResultSample
      ForceNonceCheck:
        Ref: ForceNonceCheck
      GroupId:
        Ref: GroupId
      OpenIdConnectConfig:
        Ref: OpenIdConnectConfig
      RequestConfig:
        Ref: RequestConfig
      RequestParameters:
        Ref: RequestParameters
      ResultSample:
        Ref: ResultSample
      ResultType:
        Ref: ResultType
      ServiceConfig:
        Ref: ServiceConfig
      ServiceParameters:
        Ref: ServiceParameters
      ServiceParametersMap:
        Ref: ServiceParametersMap
      SystemParameters:
        Ref: SystemParameters
      Tags:
        Ref: Tags
      Visibility:
        Ref: Visibility
    Type: ALIYUN::ApiGateway::Api
Outputs:
  ApiId:
    Description: The id of the API
```

```
    Description: The id of the API.
    Value:
      Fn::GetAtt:
      - API
      - ApiId
```

For more examples, visit Api.json and Api.yml. In the examples, the ALIYUN::ApiGateway::Api, ALIYUN::ApiGateway::App, ALIYUN::ApiGateway::Authorization, ALIYUN::ApiGateway::Deployment, ALIYUN::ApiGateway::Signature, ALIYUN::ApiGateway::SignatureBinding, ALIYUN::ApiGateway::TrafficControl, and ALIYUN::ApiGateway::TrafficControlBinding resources are involved.

6.2. ALIYUN::ApiGateway::App

ALIYUN::ApiGateway::App is used to create an application. Before you call a third-party API, you must create an application and use the application as an identity to call the API.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::App",
  "Properties": {
    "Description": String,
    "Tags": List,
    "AppName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AppName	String	Yes	Yes	The name of the application.	The name must be globally unique. We recommend that you add a special identifier to ensure that the name is unique. The name must be 4 to 15 characters in length and can contain letters, digits, and underscores (_). The name must start with a letter.
Tags	List	No	Yes	The tags.	You can specify up to 20 tags.
Description	String	No	Yes	The description of the application.	The description can be up to 180 characters in length.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	None
Value	String	No	No	The value of the tag.	None

Response parameters

Fn::GetAtt

- AppKey: the key of the application.
- AppSecret: the secret of the application.
- AppId: the ID of the application.
- Tags: the tags of the application.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of the App, less than 180 characters."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to app. Max support 20 tags to add during create app. Each tag with two properties Key and
Value, and Key is required.",
      "MaxLength": 20
    },
    "AppName": {
      "Type": "String",
      "Description": "The name of the App.Need [4, 15] Chinese\\English\\Number characters or \"_\",and should start with Chine
se/English character."
    }
  },
  "Resources": {
    "APP": {
      "Type": "ALIYUN::ApiGateway::App",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "AppName": {
          "Ref": "AppName"
        }
      }
    }
  },
  "Outputs": {
    "AppId": {
      "Description": "The id of the created APP",
      "Value": {
        "Fn::GetAtt": [
          "APP",
          "AppId"
        ]
      }
    },
    "AppKey": {
      "Description": "The key of the APP",
      "Value": {
        "Fn::GetAtt": [
          "APP",
          "AppKey"
        ]
      }
    },
    "AppSecret": {
```

```
    "AppSecret": {
      "Description": "The secret of the APP",
      "Value": {
        "Fn::GetAtt": [
          "APP",
          "AppSecret"
        ]
      }
    },
    "Tags": {
      "Description": "Tags of app",
      "Value": {
        "Fn::GetAtt": [
          "APP",
          "Tags"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: 'Description of the App, less than 180 characters.'
  Tags:
    Type: Json
    Description: >-
      Tags to attach to app. Max support 20 tags to add during create app. Each
      tag with two properties Key and Value, and Key is required.
    MaxLength: 20
  AppName:
    Type: String
    Description: >-
      The name of the App.Need [4, 15] Chinese\English\Number characters or
      "_",and should start with Chinese/English character.
Resources:
  APP:
    Type: 'ALIYUN::ApiGateway::App'
    Properties:
      Description:
        Ref: Description
      Tags:
        Ref: Tags
      AppName:
        Ref: AppName
Outputs:
  AppId:
    Description: The id of the created APP
    Value:
      'Fn::GetAtt':
        - APP
        - AppId
  AppKey:
    Description: The key of the APP
    Value:
      'Fn::GetAtt':
        - APP
        - AppKey
  AppSecret:
    Description: The secret of the APP
    Value:
      'Fn::GetAtt':
        - APP
        - AppSecret
  Tags:
    Description: Tags of app
    Value:
      'Fn::GetAtt':
        - APP
        - Tags
```

6.3. ALIYUN::ApiGateway::Authorization

ALIYUN::ApiGateway::Authorization is used to authorize APIs to access applications.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::Authorization",
  "Properties": {
    "ApiIds": List,
    "AppIds": List,
    "GroupId": String,
    "StageName": String,
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ApiIds	List	Yes	Yes	The ID of the specified API.	A maximum of 100 API operation IDs can be entered.
AppIds	List	Yes	Yes	The IDs of the applications.	An ID is a globally unique identifier (GUID) generated by the system. You can specify multiple application IDs.
GroupId	String	Yes	Yes	The ID of the API group to which the API belongs.	The ID is a GUID generated by the system.
StageName	String	Yes	Yes	The name of the environment.	Valid values: • TEST • PRE • RELEASE
Description	String	No	Yes	The description of the authorization.	None.

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "GroupId": {
      "Type": "String",
      "Default": "xxxx10b1b4dc7a2e6ba8ca3xxxx",
      "Description": "The ID of the API group"
    },
    "AppId": {
      "Type": "Number",
      "Default": 577****,
      "Description": "APP ID"
    },
    "ApiId": {
      "Type": "String",
      "Default": "xxxxx2a8b6d4ce2ad1f95cbxxxxx",
      "Description": "API ID"
    }
  },
  "Resources": {
    "Authorization": {
      "Type": "ALIYUN::ApiGateway::Authorization",
      "Properties": {
        "GroupId": {
          "Ref": "GroupId"
        },
        "StageName": "TEST",
        "AppIds": [
          {
            "Ref": "AppId"
          }
        ],
        "ApiIds": [
          {
            "Ref": "ApiId"
          }
        ],
        "Description": "demo"
      }
    }
  }
}
```

6.4. ALIYUN::ApiGateway::CustomDomain

ALIYUN::ApiGateway::CustomDomain is used to bind a custom domain name and upload an SSL certificate to a specified API group.

> **Note**
> - The SSL certificate must match the custom domain name.
> - After the SSL certificate is bound, HTTPS-based API services become available.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::CustomDomain",
  "Properties": {
    "CertificateBody": String,
    "CertificateName": String,
    "GroupId": String,
    "CertificatePrivateKey": String,
    "DomainName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
CertificateBody	String	No	Yes	The content of the certificate.	Certificate content is written as a single line and you can break the line by using the `\n` line break.
CertificateName	String	No	Yes	The name of the SSL certificate.	None
GroupId	String	Yes	No	The ID of the API group.	None
CertificatePrivateKey	String	No	Yes	The private key of the SSL certificate.	None
DomainName	String	Yes	No	The custom domain name.	When a domain name fails to be bound, find the reasons and bind the domain name again. For more information, see Bind a wildcard domain name to an API group.

Response parameters

Fn::GetAtt

CertificateId: the ID of the certificate.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "GroupId": {
      "Type": "String",
      "Description": "the ID of the API group"
    },
    "CertificateBody": {
      "Type": "String"
    },
    "CertificatePrivateKey": {
      "Type": "String"
    }
  },
  "Resources": {
    "CustomDomain": {
      "Type": "ALIYUN::ApiGateway::CustomDomain",
      "Properties": {
        "GroupId": {
          "Ref": "GroupId"
        },
        "DomainName": "mytest.api.domain",
        "CertificateName": "demo_cert",
        "CertificateBody": {
          "Ref": "CertificateBody"
        },
        "CertificatePrivateKey": {
          "Ref": "CertificatePrivateKey"
        }
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  GroupId:
    Type: String
    Description: the ID of the API group
  CertificateBody:
    Type: String
  CertificatePrivateKey:
    Type: String
Resources:
  CustomDomain:
    Type: 'ALIYUN::ApiGateway::CustomDomain'
    Properties:
      GroupId:
        Ref: GroupId
      DomainName: mytest.api.domain
      CertificateName: demo_cert
      CertificateBody:
        Ref: CertificateBody
      CertificatePrivateKey:
        Ref: CertificatePrivateKey
```

To view more examples, visit CustomDomain.json and CustomDomain.yml.

6.5. ALIYUN::ApiGateway::Deployment

ALIYUN::ApiGateway::Deployment is used to release an API to a specified runtime environment, or switch a released API to a specified version.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::Deployment",
  "Properties": {
    "HistoryVersion": String ,
    "ApiId": String ,
    "Description": String ,
    "StageName": String ,
    "GroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ApiId	String	Yes	No	The ID of the API.	None.
StageName	String	Yes	Yes	The name of the runtime environment.	Valid values: • TEST • PRE • RELEASE You cannot specify both the HistoryVersion and StageName parameters at the same time.
GroupId	String	Yes	No	The ID of the API group.	None.
HistoryVersion	String	No	Yes	The history version of the API. If this parameter is specified, the released API is switched to the specified version. If this parameter is not specified, the API is released.	You cannot specify both the HistoryVersion and StageName parameters at the same time.

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the current release.	None.

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "GroupId": {
      "Type": "String ",
      "Description": "API group ID"
    },
    "ApiId": {
      "Type": "String ",
      "Description": "API ID"
    }
  },
  "Resources": {
    "Deployment": {
      "Type": "ALIYUN::ApiGateway::Deployment",
      "Properties": {
        "GroupId": {
          "Ref": "GroupId"
        },
        "ApiId": {
          "Ref": "ApiId"
        },
        "StageName": "PRE",
        "Description": "TEST_ONLY_CHANGE"
      }
    }
  }
}
```

6.6. ALIYUN::ApiGateway::Group

ALIYUN::ApiGateway::Group is used to create an API group.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::Group",
  "Properties": {
    "GroupName": String,
    "Description": String,
    "InstanceId": String,
    "PassthroughHeaders": String,
    "InternetEnable": Boolean,
    "VpcIntranetEnable": Boolean,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
GroupName	String	Yes	Yes	The name of the API group.	The name must be unique. It must be 4 to 50 characters in length. The name must start with a letter and can contain letters, digits, and underscores (_).
Description	String	No	Yes	The description of the API group.	The description can be up to 180 characters in length.
InstanceId	String	No	No	The network type of the API Gateway instance.	Valid values: • api-shared-vpc-001: VPC. • api-shared-classic-001: classic network.
InternetEnable	Boolean	No	Yes	Specifies whether to enable the public subdomain.	Valid values: • true • false
VpcIntranetEnable	Boolean	No	Yes	Specifies whether to enable the private subdomain.	Valid values: • true • false
PassthroughHeaders	String	No	No	Configure the pass-through mode.	Set the value to host.
Tags	List	No	Yes	The list of tags of the API group.	You can specify up to 20 tags for an API group. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of a tag.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Property	Type	Required	Editable	Description	Constraint
Value	String	No	No	The value of a tag.	The tag value can be up to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Return value

Fn::GetAtt

- SubDomain: the second-level domain that the system assigns to the API group. The domain is used to test API calls.
- GroupId: the ID of the API group. The ID is a globally unique identifier (GUID) generated by the system.
- Tags: tags of the API group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InternetEnable": {
      "Type": "Boolean",
      "Description": "Enable or disable internet subdomain. True for enable. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "GroupName": {
      "Type": "String",
      "Description": "The name of the Group.Need [4, 50] Chinese\\English\\Number characters or \"_\",and should start with Chi
nese/English character."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the Group, less than 180 characters."
    },
    "InstanceId": {
      "Type": "String",
      "Description": "API gateway instance ID. For example, \"api-shared-vpc-001\" means vpc instance, while \"api-shared-class
ic-001\" means classic instance."
    },
    "VpcIntranetEnable": {
      "Type": "Boolean",
      "Description": "Enable or disable VPC intranet subdomain. True for enable. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to group. Max support 20 tags to add during create group. Each tag with two properties Key
and Value, and Key is required.",
      "MaxLength": 20
    },
    "PassthroughHeaders": {
      "Type": "String",
      "Description": "Pass through headers setting. values:\nhost: pass through host headers"
    }
  },
  "Resources": {
    "Group": {
      "Type": "ALIYUN::ApiGateway::Group",
```

```
      "Properties": {
        "InternetEnable": {
          "Ref": "InternetEnable"
        },
        "GroupName": {
          "Ref": "GroupName"
        },
        "Description": {
          "Ref": "Description"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "VpcIntranetEnable": {
          "Ref": "VpcIntranetEnable"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "PassthroughHeaders": {
          "Ref": "PassthroughHeaders"
        }
      }
    }
  },
  "Outputs": {
    "SubDomain": {
      "Description": "The sub domain assigned to the Group by the system",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "SubDomain"
        ]
      }
    },
    "Tags": {
      "Description": "Tags of app",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "Tags"
        ]
      }
    },
    "GroupId": {
      "Description": "The id of the created Group resource",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InternetEnable:
    Type: Boolean
    Description: 'Enable or disable internet subdomain. True for enable. '
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  GroupName:
    Type: String
    Description: >-
      The name of the Group.Need [4, 50] Chinese\English\Number characters or
      "_",and should start with Chinese/English character.
```

```
  Description:
    Type: String
    Description: 'Description of the Group, less than 180 characters.'
  InstanceId:
    Type: String
    Description: >-
      API gateway instance ID. For example, "api-shared-vpc-001" means vpc
      instance, while "api-shared-classic-001" means classic instance.
  VpcIntranetEnable:
    Type: Boolean
    Description: 'Enable or disable VPC intranet subdomain. True for enable. '
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Tags:
    Type: Json
    Description: >-
      Tags to attach to group. Max support 20 tags to add during create group.
      Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
  PassthroughHeaders:
    Type: String
    Description: |-
      Pass through headers setting. values:
      host: pass through host headers
Resources:
  Group:
    Type: 'ALIYUN::ApiGateway::Group'
    Properties:
      InternetEnable:
        Ref: InternetEnable
      GroupName:
        Ref: GroupName
      Description:
        Ref: Description
      InstanceId:
        Ref: InstanceId
      VpcIntranetEnable:
        Ref: VpcIntranetEnable
      Tags:
        Ref: Tags
      PassthroughHeaders:
        Ref: PassthroughHeaders
Outputs:
  SubDomain:
    Description: The sub domain assigned to the Group by the system
    Value:
      'Fn::GetAtt':
        - Group
        - SubDomain
  Tags:
    Description: Tags of app
    Value:
      'Fn::GetAtt':
        - Group
        - Tags
  GroupId:
    Description: The id of the created Group resource
    Value:
      'Fn::GetAtt':
        - Group
        - GroupId
```

6.7. ALIYUN::ApiGateway::LogConfig

ALIYUN::ApiGateway::LogConfig is used to create a log configuration.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::LogConfig",
  "Properties": {
    "SlsLogStore": String,
    "SlsProject": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SlsProject	String	Yes	Yes	The Log Service project.	None
SlsLogStore	String	Yes	Yes	The Logstore in the Log Service project.	None

Response parameters

Fn::GetAtt

- SlsProject: the name of the Log Service project.
- SlsLogStore: the name of the Logstore.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SlsLogStore": {
      "Type": "String",
      "Description": "Logstore name of SLS",
      "MinLength": 3,
      "MaxLength": 63
    },
    "SlsProject": {
      "Type": "String",
      "Description": "Project name of SLS",
      "MinLength": 3,
      "MaxLength": 63
    }
  },
  "Resources": {
    "LogConfig": {
      "Type": "ALIYUN::ApiGateway::LogConfig",
      "Properties": {
        "SlsLogStore": {
          "Ref": "SlsLogStore"
        },
        "SlsProject": {
          "Ref": "SlsProject"
        }
      }
    }
  },
  "Outputs": {
    "SlsLogStore": {
      "Description": "Logstore name of SLS",
      "Value": {
        "Fn::GetAtt": [
          "LogConfig",
          "SlsLogStore"
        ]
      }
    },
    "SlsProject": {
      "Description": "Project name of SLS",
      "Value": {
        "Fn::GetAtt": [
          "LogConfig",
          "SlsProject"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  SlsLogStore:
    Type: String
    Description: Logstore name of SLS
    MinLength: 3
    MaxLength: 63
  SlsProject:
    Type: String
    Description: Project name of SLS
    MinLength: 3
    MaxLength: 63
Resources:
  LogConfig:
    Type: 'ALIYUN::ApiGateway::LogConfig'
    Properties:
      SlsLogStore:
        Ref: SlsLogStore
      SlsProject:
        Ref: SlsProject
Outputs:
  SlsLogStore:
    Description: Logstore name of SLS
    Value:
      'Fn::GetAtt':
        - LogConfig
        - SlsLogStore
  SlsProject:
    Description: Project name of SLS
    Value:
      'Fn::GetAtt':
        - LogConfig
        - SlsProject
```

6.8. ALIYUN::ApiGateway::PluginAttachment

ALIYUN::ApiGateway::PluginAttachment is used to bind a plug-in to an API.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::PluginAttachment",
  "Properties": {
    "StageName": String,
    "PluginId": String,
    "ApiId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
StageName	String	Yes	No	The environment to which the API is deployed.	Valid values: • RELEASE: release environment • PRE: pre-release environment • TEST: test environment
PluginId	String	Yes	No	The ID of the plug-in.	None
ApiId	String	Yes	No	The ID of the API.	None

Response parameters

Fn::GetAtt

- PluginId: the ID of the plug-in.
- ApiId: the ID of the API.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "StageName": {
      "Type": "String",
      "Description": "The name of the runtime environment. Valid values: \nRELEASE: indicates the release environment.\nPRE: in
dicates the pre-release environment.\nTEST: indicates the test environment.",
      "AllowedValues": [
        "RELEASE",
        "PRE",
        "TEST"
      ]
    },
    "PluginId": {
      "Type": "String",
      "Description": "The ID of the plugin that you want to bind."
    },
    "ApiId": {
      "Type": "String",
      "Description": "The ID of the API to which you want to bind the plug-in."
    }
  },
  "Resources": {
    "PluginAttachment": {
      "Type": "ALIYUN::ApiGateway::PluginAttachment",
      "Properties": {
        "StageName": {
          "Ref": "StageName"
        },
        "PluginId": {
          "Ref": "PluginId"
        },
        "ApiId": {
          "Ref": "ApiId"
        }
      }
    }
  },
  "Outputs": {
    "PluginId": {
      "Description": "The plugin id.",
      "Value": {
        "Fn::GetAtt": [
          "PluginAttachment",
          "PluginId"
        ]
      }
    },
    "ApiId": {
      "Description": "The api id.",
      "Value": {
        "Fn::GetAtt": [
          "PluginAttachment",
          "ApiId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ApiId:
    Description: The ID of the API to which you want to bind the plug-in.
    Type: String
  PluginId:
    Description: The ID of the plugin that you want to bind.
    Type: String
  StageName:
    AllowedValues:
    - RELEASE
    - PRE
    - TEST
    Description: "The name of the runtime environment. Valid values: \nRELEASE: indicates\
      \ the release environment.\nPRE: indicates the pre-release environment.\nTEST:\
      \ indicates the test environment."
    Type: String
Resources:
  PluginAttachment:
    Properties:
      ApiId:
        Ref: ApiId
      PluginId:
        Ref: PluginId
      StageName:
        Ref: StageName
    Type: ALIYUN::ApiGateway::PluginAttachment
Outputs:
  ApiId:
    Description: The api id.
    Value:
      Fn::GetAtt:
      - PluginAttachment
      - ApiId
  PluginId:
    Description: The plugin id.
    Value:
      Fn::GetAtt:
      - PluginAttachment
      - PluginId
```

6.9. ALIYUN::ApiGateway::Signature

ALIYUN::ApiGateway::Signature is used to create a backend signature.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::Signature",
  "Properties": {
    "SignatureSecret": String,
    "SignatureName": String,
    "SignatureKey": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
SignatureSecret	String	Yes	Yes	The secret value of the signature.	The secret value must be 6 to 30 characters in length and must start with a letter. It can contain letters, digits, underscores (_), and the following special characters: • @ • # • ! • *
SignatureName	String	Yes	No	The name of the signature.	The name must be 4 to 50 characters in length and can contain letters, digits, and underscores (_). It must start with a letter.
SignatureKey	String	Yes	Yes	The key of the signature.	The key must be 6 to 20 characters in length and can contain letters, digits, and underscores (_). It must start with a letter.

Response parameters

Fn::GetAtt

SignatureId: the ID of the backend signature.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Signature": {
      "Type": "ALIYUN::ApiGateway::Signature",
      "Properties": {
        "SignatureName": "demo_****",
        "SignatureKey": "demo_test****",
        "SignatureSecret": "demo_test_se****"
      }
    }
  }
}
```

6.10. ALIYUN::ApiGateway::SignatureBinding

ALIYUN::ApiGateway::SignatureBinding is used to bind backend signatures to APIs.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::SignatureBinding",
  "Properties": {
    "ApiIds": List,
    "GroupId": String,
    "StageName": String,
    "SignatureId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ApiIds	List	Yes	Yes	The IDs of the specified APIs.	A maximum of 100 API IDs can be entered.
GroupId	String	Yes	Yes	The ID of the API group to which the API belongs.	None.
StageName	String	Yes	Yes	The API environment.	Valid values: • TEST • PRE • RELEASE
SignatureId	String	Yes	Yes	The ID of the signature.	None.

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ApiIds": {
      "Type": "String",
      "Description": "API ID"
    },
    "GroupId": {
      "Type": "String"
    },
  },
  "Resources": {
    "Signature": {
      "Type": "ALIYUN::ApiGateway::Signature",
      "Properties": {
        "SignatureName": "ros_tes****",
        "SignatureKey": "demo_test****",
        "SignatureSecret": "demo_test_se****"
      }
    },
    "SignatureBinding": {
      "Type": "ALIYUN::ApiGateway::SignatureBinding",
      "Properties": {
        "GroupId": {
         "Ref": "GroupId"
        },
        "SignatureId": {
          "Ref": "Signature"
        },
        "ApiIds": [{
          "Ref": "ApiIds"
        }],
        "StageName": "PRE"
      }
    }
  }
}
```

6.11. ALIYUN::ApiGateway::StageConfig

ALIYUN::ApiGateway::StageConfig is used to configure the test, pre-release, and release environment variables for API groups.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::StageConfig",
  "Properties": {
    "Variables": Map,
    "GroupId": String,
    "StageName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Variables	Map	Yes	Yes	The environment variables.	The variables are in the custom `key-pair` format. You can specify up to 50 environment variables.
GroupId	String	Yes	Yes	The ID of the API group to which the API belongs.	None.
StageName	String	Yes	Yes	The name of the environment for which variables are to be configured.	Valid values: • TEST • PRE • RELEASE

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": "Set variables of a stage",
  "Parameters": {
    "GroupId": {
      "Type": "String",
      "Description": "Group ID of the environment variables"
    }
  },
  "Resources": {
    "TestStage": {
      "Type": "ALIYUN::ApiGateway::StageConfig",
      "Properties": {
        "GroupId": {
          "Ref": "GroupId"
        },
        "StageName": "PRE",
        "Variables": {
          "key1": "var1",
          "key3": "var3"
        }
      }
    }
  }
}
```

6.12. ALIYUN::ApiGateway::TrafficControl

ALIYUN::ApiGateway::TrafficControl is used to create a user-defined throttling policy.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::TrafficControl",
  "Properties": {
    "TrafficControlName": String,
    "Description": String,
    "UserDefault": String,
    "AppDefault": String,
    "TrafficControlUnit": String,
    "Special": List,
    "ApiDefault": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TrafficControlName	String	Yes	Yes	The name of the throttling policy.	The name must be 4 to 50 characters in length and can contain letters, digits, and underscores (_). It cannot start with an underscore (_).
TrafficControlUnit	String	Yes	Yes	The throttling unit.	Valid values: • MINUTE • HOUR • DAY
ApiDefault	Integer	Yes	Yes	The default throttling value for each API.	None.
Description	String	No	Yes	The description of the throttling policy.	None.
UserDefault	String	No	Yes	The default throttling value for each user.	None.
AppDefault	String	No	Yes	The default throttling value for each application.	None.
Special	List	No	Yes	The list of special throttling policies customized by the user.	None.

Special syntax

```
"Special": {
  "SpecialType" : String,
  "SpecialKey" : String,
  "TrafficValue" : Integer
}
```

Special properties

Property	Type	Required	Editable	Description	Constraint
SpecialType	String	Yes	No	The special throttling type.	Valid values: • APP • USER
SpecialKey	String	Yes	No	The application ID or Alibaba Cloud account ID that corresponds to the special throttling type.	None.

Property	Type	Required	Editable	Description	Constraint
TrafficValue	Integer	Yes	No	The special throttling value.	None.

Response parameters

Fn::GetAtt

TrafficControlId: the ID of the user-defined throttling policy.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AppId": {
      "Type": "String",
      "Description": "The ID of the special application"
    }
  },
  "Resources": {
    "TrafficControl": {
      "Type": "ALIYUN::ApiGateway::TrafficControl",
      "Properties": {
        "TrafficControlName": "test_traffic_cont****",
        "TrafficControlUnit": "MINUTE",
        "ApiDefault": 400,
        "UserDefault": 200,
        "AppDefault": 100,
        "Description": "demo2",
        "Special": [
          {
            "SpecialType": "APP",
            "SpecialKey": {
              "Ref": "AppId"
            },
            "TrafficValue": 80
          }
        ]
      }
    }
  }
}
```

6.13. ALIYUN::ApiGateway::TrafficControlBinding

ALIYUN::ApiGateway::TrafficControlBinding is used to configure user-defined throttling policies for APIs.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::TrafficControlBinding",
  "Properties": {
    "ApiIds": List,
    "TrafficControlId": String,
    "StageName": String,
    "GroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ApiIds	List	Yes	Yes	The IDs of the specified APIs.	You can specify up to 100 API IDs.

Property	Type	Required	Editable	Description	Constraint
TrafficControlId	String	Yes	Yes	The ID of the throttling policy that you want to bind to APIs.	None.
StageName	String	Yes	Yes	The API environment.	Valid values: • TEST • PRE • RELEASE
GroupId	String	Yes	Yes	The ID of the API group to which the API belongs.	None.

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TrafficControlId": {
      "Type": "String",
      "Description": "The ID of the throttling policy"
    },
    "GroupId": {
      "Type": "String",
      "Description": "The ID of the API group"
    },
    "ApiId": {
      "Type": "String",
      "Description": "The ID of the API to which the throttling policy is bound"
    }
  },
  "Resources": {
    "TrafficControlBinding": {
      "Type": "ALIYUN::ApiGateway::TrafficControlBinding",
      "Properties": {
        "TrafficControlId": {
          "Ref": "TrafficControlId"
        },
        "GroupId": {
          "Ref": "GroupId"
        },
        "ApiIds": [
          {
            "Ref": "ApiId"
          }
        ],
        "StageName": "RELEASE"
      }
    }
  }
}
```

6.14. ALIYUN::ApiGateway::VpcAccessConfig

ALIYUN::ApiGateway::VpcAccessConfig is used to configure the VPC authorization for an instance so that VPC API can provide services externally.

Syntax

```
{
  "Type": "ALIYUN::ApiGateway::VpcAccessConfig",
  "Properties": {
    "InstanceId": String,
    "VpcId": String,
    "Name": String,
    "Port": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	Yes	The ID of the ECS or SLB instance for which to configure the VPC authorization.	The instance must belong to the VPC specified by the VpcId parameter.
VpcId	String	Yes	Yes	The ID of the VPC.	None.
Name	String	Yes	Yes	The name of the custom authorization.	The name must be unique.
Port	Integer	Yes	Yes	The port number that corresponds to the instance.	None.

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceId": {
      "Type": "String"
    },
    "VpcId": {
      "Type": "String"
    }
  },
  "Resources": {
    "VpcAccesssConfig": {
      "Type": "ALIYUN::ApiGateway::VpcAccessConfig",
      "Properties": {
        "VpcId": {"Ref": "VpcId"},
        "InstanceId": {"Ref": "InstanceId"},
        "Port": 8080,
        "Name": "ros_test_vpc_access"
      }
    }
  }
}
```

7.ARMS

7.1. ALIYUN::ARMS::AlertContact

ALIYUN::ARMS::AlertContact is used to create an alert contact.

Syntax

```
{
  "Type": "ALIYUN::ARMS::AlertContact",
  "Properties": {
    "DingRobotWebhookUrl": String,
    "PhoneNum": String,
    "RegionId": String,
    "SystemNoc": Boolean,
    "ContactName": String,
    "Email": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DingRobotWebhookUrl	String	No	Yes	The webhook URL of DingTalk chatbot.	Enter alert in the custom keyword field of DingTalk chatbot security settings.
Email	String	No	Yes	The email address of the alert contact.	None.
PhoneNum	String	No	Yes	The mobile phone number of the alert contact.	You must specify at least one of the DingRobotWebhookUrl, Email, and PhoneNum parameters.
RegionId	String	No	No	The region ID of the alert contact. The default value of this parameter is the region ID of the stack.	Valid values: • cn-qingdao • cn-beijing • cn-shanghai • cn-hangzhou • cn-shenzhen • cn-hongkong • ap-southeast-1
SystemNoc	Boolean	No	Yes	Specifies whether to receive system notifications.	None.
ContactName	String	Yes	Yes	The name of the alert contact.	None.

Response parameters

Fn::GetAtt

ContactId: the ID of the alert contact.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AlertContact": {
      "Type": "ALIYUN::ARMS::AlertContact",
      "Properties": {
```

```
        "PhoneNum": {
          "Ref": "PhoneNum"
        },
        "RegionId": {
          "Ref": "RegionId"
        },
        "SystemNoc": {
          "Ref": "SystemNoc"
        },
        "DingRobotWebhookUrl": {
          "Ref": "DingRobotWebhookUrl"
        },
        "ContactName": {
          "Ref": "ContactName"
        },
        "Email": {
          "Ref": "Email"
        }
      }
    }
  },
  "Parameters": {
    "PhoneNum": {
      "Type": "String",
      "Description": "The phone number of the contact."
    },
    "RegionId": {
      "Type": "String",
      "Description": "Region ID. Default to region of stack.",
      "AllowedValues": [
        "cn-qingdao",
        "cn-beijing",
        "cn-shanghai",
        "cn-hangzhou",
        "cn-shenzhen",
        "cn-hongkong",
        "ap-southeast-1"
      ]
    },
    "SystemNoc": {
      "Type": "Boolean",
      "Description": "Specifies whether to receive system alerts.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "DingRobotWebhookUrl": {
      "Type": "String",
      "Description": "The DingTalk Chatbot address of the contact."
    },
    "ContactName": {
      "Type": "String",
      "Description": "The name of the alert contact that you want to create."
    },
    "Email": {
      "Type": "String",
      "Description": "The email address of the contact."
    }
  },
  "Outputs": {
    "ContactId": {
      "Description": "The ID of the alert contact that you created.",
      "Value": {
        "Fn::GetAtt": [
          "AlertContact",
          "ContactId"
        ]
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AlertContact:
    Type: 'ALIYUN::ARMS::AlertContact'
    Properties:
      PhoneNum:
        Ref: PhoneNum
      RegionId:
        Ref: RegionId
      SystemNoc:
        Ref: SystemNoc
      DingRobotWebhookUrl:
        Ref: DingRobotWebhookUrl
      ContactName:
        Ref: ContactName
      Email:
        Ref: Email
Parameters:
  PhoneNum:
    Type: String
    Description: The phone number of the contact.
  RegionId:
    Type: String
    Description: Region ID. Default to region of stack.
    AllowedValues:
      - cn-qingdao
      - cn-beijing
      - cn-shanghai
      - cn-hangzhou
      - cn-shenzhen
      - cn-hongkong
      - ap-southeast-1
  SystemNoc:
    Type: Boolean
    Description: Specifies whether to receive system alerts.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  DingRobotWebhookUrl:
    Type: String
    Description: The DingTalk Chatbot address of the contact.
  ContactName:
    Type: String
    Description: The name of the alert contact that you want to create.
  Email:
    Type: String
    Description: The email address of the contact.
Outputs:
  ContactId:
    Description: The ID of the alert contact that you created.
    Value:
      'Fn::GetAtt':
        - AlertContact
        - ContactId
```

7.2. ALIYUN::ARMS::AlertContactGroup

ALIYUN::ARMS::AlertContactGroup is used to create an alert contact group.

Syntax

```
{
  "Type": "ALIYUN::ARMS::AlertContactGroup",
  "Properties": {
    "ContactIds": List,
    "RegionId": String,
    "ContactGroupName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ContactIds	List	Yes	Yes	The IDs of contacts within the alert contact group.	Separate multiple contact IDs with spaces.
RegionId	String	No	No	The region ID of the alert contact. The default value of this parameter is the region ID of the stack.	Valid values: • cn-qingdao • cn-beijing • cn-shanghai • cn-hangzhou • cn-shenzhen • cn-hongkong • ap-southeast-1
ContactGroupName	String	Yes	Yes	The name of the alert contact group.	None.

Response parameters

Fn::GetAtt

ContactGroupId: the ID of the alert contact group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AlertContactGroup": {
      "Type": "ALIYUN::ARMS::AlertContactGroup",
      "Properties": {
        "ContactIds": {
          "Ref": "ContactIds"
        },
        "RegionId": {
          "Ref": "RegionId"
        },
        "ContactGroupName": {
          "Ref": "ContactGroupName"
        }
      }
    }
  },
  "Parameters": {
    "ContactIds": {
      "Type": "Json",
      "Description": "The list of alert contact ID. "
    },
    "RegionId": {
      "Type": "String",
      "Description": "Region ID. Default to region of stack.",
      "AllowedValues": [
        "cn-qingdao",
        "cn-beijing",
        "cn-shanghai",
        "cn-hangzhou",
        "cn-shenzhen",
        "cn-hongkong",
        "ap-southeast-1"
      ]
    },
    "ContactGroupName": {
      "Type": "String",
      "Description": "The name of the alert contact group that you want to create."
    }
  },
  "Outputs": {
    "ContactGroupId": {
      "Description": "The ID of the alert contact group that you created.",
      "Value": {
        "Fn::GetAtt": [
          "AlertContactGroup",
          "ContactGroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AlertContactGroup:
    Type: 'ALIYUN::ARMS::AlertContactGroup'
    Properties:
      ContactIds:
        Ref: ContactIds
      RegionId:
        Ref: RegionId
      ContactGroupName:
        Ref: ContactGroupName
Parameters:
  ContactIds:
    Type: Json
    Description: 'The list of alert contact ID. '
  RegionId:
    Type: String
    Description: Region ID. Default to region of stack.
    AllowedValues:
      - cn-qingdao
      - cn-beijing
      - cn-shanghai
      - cn-hangzhou
      - cn-shenzhen
      - cn-hongkong
      - ap-southeast-1
  ContactGroupName:
    Type: String
    Description: The name of the alert contact group that you want to create.
Outputs:
  ContactGroupId:
    Description: The ID of the alert contact group that you created.
    Value:
      'Fn::GetAtt':
        - AlertContactGroup
        - ContactGroupId
```

7.3. ALIYUN::ARMS::RetcodeApp

ALIYUN::ARMS::RetcodeApp is used to create an Application Real-Time Monitoring Service (ARMS) browser monitoring job.

Syntax

```
{
  "Type": "ALIYUN::ARMS::RetcodeApp",
  "Properties": {
    "RetcodeAppType": String,
    "RegionId": String,
    "RetcodeAppName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RetcodeAppType	String	Yes	No	The type of the application for which you want to create the browser monitoring job.	Valid values: • web • weex • mini_dd • mini_alipay • mini_wx • mini_common
RegionId	String	Yes	No	The ID of the region.	Valid values: • cn-hangzhou • ap-southeast-1

Property	Type	Required	Editable	Description	Constraint
RetcodeAppName	String	Yes	No	The name of the application for which you want to create the browser monitoring job.	None

Response parameters

Fn::GetAtt

- Pid: the pid of the application.
- AppId: the ID of the application.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "RetcodeApp": {
      "Type": "ALIYUN::ARMS::RetcodeApp",
      "Properties": {
        "RetcodeAppType": {
          "Ref": "RetcodeAppType"
        },
        "RegionId": {
          "Ref": "RegionId"
        },
        "RetcodeAppName": {
          "Ref": "RetcodeAppName"
        }
      }
    }
  },
  "Parameters": {
    "RetcodeAppType": {
      "Type": "String",
      "Description": "The type of the application for which you want to create the browser monitoring job. Allowed values: web,
weex, mini_dd, mini_alipay, mini_wx, mini_common."
    },
    "RegionId": {
      "Default": "cn-hangzhou",
      "Type": "String",
      "Description": "Region ID. Allowed values: cn-hangzhou, ap-southeast-1. Default to cn-hangzhou.",
      "AllowedValues": [
        "cn-hangzhou",
        "ap-southeast-1"
      ]
    },
    "RetcodeAppName": {
      "Type": "String",
      "Description": "The name of the application for which you want to create the browser monitoring job."
    }
  },
  "Outputs": {
    "Pid": {
      "Description": "The PID.",
      "Value": {
        "Fn::GetAtt": [
          "RetcodeApp",
          "Pid"
        ]
      }
    },
    "AppId": {
      "Description": "The ID of the application for which you created the browser monitoring job.",
      "Value": {
        "Fn::GetAtt": [
          "RetcodeApp",
          "AppId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  RetcodeApp:
    Type: 'ALIYUN::ARMS::RetcodeApp'
    Properties:
      RetcodeAppType:
        Ref: RetcodeAppType
      RegionId:
        Ref: RegionId
      RetcodeAppName:
        Ref: RetcodeAppName
Parameters:
  RetcodeAppType:
    Type: String
    Description: >-
      The type of the application for which you want to create the browser
      monitoring job. Allowed values: web, weex, mini_dd, mini_alipay, mini_wx,
      mini_common.
  RegionId:
    Default: cn-hangzhou
    Type: String
    Description: >-
      Region ID. Allowed values: cn-hangzhou, ap-southeast-1. Default to
      cn-hangzhou.
    AllowedValues:
      - cn-hangzhou
      - ap-southeast-1
  RetcodeAppName:
    Type: String
    Description: >-
      The name of the application for which you want to create the browser
      monitoring job.
Outputs:
  Pid:
    Description: The PID.
    Value:
      'Fn::GetAtt':
        - RetcodeApp
        - Pid
  AppId:
    Description: >-
      The ID of the application for which you created the browser monitoring
      job.
    Value:
      'Fn::GetAtt':
        - RetcodeApp
        - AppId
```

8.ALB

8.1. ALIYUN::ALB::BackendServerAttachment

ALIYUN::ALB::BackendServerAttachment is used to add backend servers to a server group.

Syntax

```
{
  "Type": "ALIYUN::ALB::BackendServerAttachment",
  "Properties": {
    "ServerGroupId": String,
    "Servers": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ServerGroupId	String	Yes	No	The ID of the server group.	None.
Servers	List	Yes	Yes	The backend servers.	You can specify up to 40 backend servers. For more information, see Servers properties.

Servers syntax

```
"Servers": [
  {
    "ServerType": String,
    "Description": String,
    "ServerId": String,
    "ServerIp": String,
    "Port": Integer,
    "Weight": Integer
  }
]
```

Servers properties

Property	Type	Required	Editable	Description	Constraint
ServerType	String	Yes	No	The type of the backend server.	Valid values: • `Ecs` : an Elastic Compute Service (ECS) instance • `Eni` : an elastic network interface (ENI) • `Eci` : an elastic container instance • `Ip` : an IP address
Description	String	No	Yes	The description of the backend server.	The description must be 2 to 256 characters in length.

Property	Type	Required	Editable	Description	Constraint
ServerId	String	Yes	No	The resource ID or IP address.	Valid values: • the ID of the ECS instance if you set the ServerType property to `Ecs` • the ID of the ENI if you set the ServerType property to `Eni` • the ID of the elastic container instance if you set the ServerType property to `Eci` • the IP address if you set the ServerType property to `Ip`
ServerIp	String	No	No	The IP address in inclusive ENI mode.	None.
Port	Integer	No	Yes	The port that is used by the backend server.	Valid values: 1 to 65535.
Weight	Integer	No	Yes	The weight of the backend server.	Valid values: 0 to 100. Default value: 100. **Note** If you set this property to 0, no requests are forwarded to the backend server.

Return values

Fn::GetAtt

ServerGroupId: the ID of the server group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ServerGroupId": {
      "Type": "String",
      "Description": "The ID of the server group.",
      "Default": "sgp-46ndzg2wz4v5mp1****"
    },
    "Servers": {
      "Type": "Json",
      "Description": "The backend servers that you want to add to the server group. You can specify up to\n40 servers in each c
all.",
      "Default": [
        {
          "Description": "test",
          "Port": 80,
          "ServerId": "ecs-bp67acfmxazb4p****",
          "ServerIp": "192.168.1.1",
          "ServerType": "Ecs",
          "Weight": 100
        }
      ]
    }
  },
  "Resources": {
    "BackendServerAttachment": {
      "Type": "ALIYUN::ALB::BackendServerAttachment",
      "Properties": {
        "ServerGroupId": {
          "Ref": "ServerGroupId"
        },
        "Servers": {
          "Ref": "Servers"
        }
      }
    }
  },
  "Outputs": {
    "ServerGroupId": {
      "Description": "The ID of the server group.",
      "Value": {
        "Fn::GetAtt": [
          "BackendServerAttachment",
          "ServerGroupId"
        ]
      }
    }
  }
}
```

8.2. ALIYUN::ALB::Listener

ALIYUN::ALB::Listener is used to create an HTTP, HTTPS, or Quick UDP Internet Connections (QUIC) listener.

Syntax

```
{
  "Type": "ALIYUN::ALB::Listener",
  "Properties": {
    "RequestTimeout": Integer,
    "ListenerPort": Integer,
    "Http2Enabled": Boolean,
    "DefaultActions": List,
    "Certificates": List,
    "IdleTimeout": Integer,
    "LoadBalancerId": String,
    "ListenerProtocol": String,
    "QuicConfig": Map,
    "GzipEnabled": Boolean,
    "SecurityPolicyId": String,
    "ListenerDescription": String,
    "XForwardedForConfig": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RequestTimeout	Integer	No	Yes	The timeout period of a request.	Valid values: 1 to 180. Default value: 60. Unit: seconds. If no response is received from the backend server within the specified timeout period, Application Load Balancer (ALB) stops waiting for the response and returns an HTTP 504 error code to the client.
ListenerPort	Integer	Yes	No	The listening port of the instance.	Valid values: 1 to 65535.
Http2Enabled	Boolean	No	Yes	Specifies whether to enable HTTP/2.	Default value: true. Valid values: • true: enables HTTP/2. • false: disables HTTP/2. **Note** You can specify this property only for HTTPS listeners.

Property	Type	Required	Editable	Description	Constraint
DefaultActions	List	Yes	Yes	The actions of the forwarding rule.	Example: `[ { "ForwardGroupConfig": { "ServerGroupTuples": [ { "ServerGroupId": "sgp-46ndzg2wz4v5mp****" } ] }, "Type": "ForwardGroup" } ]` For more information, see DefaultActions properties.
Certificates	List	No	Yes	The certificates.	For more information, see Certificates property.
IdleTimeout	Integer	No	Yes	The timeout period of an idle connection.	Valid values: 1 to 60. Default value: 15. Unit: seconds. If no request is received within the specified timeout period, ALB closes the current connection and establishes a new connection until another request is received.
LoadBalancerId	String	Yes	No	The ID of the ALB instance.	None.
ListenerProtocol	String	Yes	No	The listening protocol of the instance.	Valid values: • HTTP • HTTPS • QUIC
QuicConfig	Map	No	Yes	The configuration of the QUIC listener that you associate with the listener added to the ALB instance.	For more information, see QuicConfig properties.
GzipEnabled	Boolean	No	Yes	Specifies whether to enable GNU zip (Gzip) compression to compress specific types of files.	Default value: true. Valid values: • true: enables Gzip compression. • false: disables Gzip compression.

Property	Type	Required	Editable	Description	Constraint
SecurityPolicyId	String	No	Yes	The ID of the security policy.	System security policies and custom security policies are supported. Default value: tls_cipher_policy_1_0. This value specifies the system security policy. **Note** You can specify this property only for HTTPS listeners.
ListenerDescription	String	No	Yes	The description of the listener.	The description must be 2 to 256 characters in length.
XForwardedForConfig	Map	No	Yes	The configuration of the X-Forwarded-For (XFF) header that is used by the ALB instance.	For more information, see XForwardedForConfig properties.

DefaultActions syntax

```
"DefaultActions": [
  {
    "Type": String,
    "ForwardGroupConfig": Map
  }
]
```

DefaultActions properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	Yes	The type of the action.	Set the value to ForwardGroup, which specifies that requests are forwarded to multiple vServer groups.
ForwardGroupConfig	Map	Yes	Yes	The configurations of the action.	For more information, see ForwardGroupConfig property.

ForwardGroupConfig syntax

```
"ForwardGroupConfig": {
  "ServerGroupTuples": List
}
```

ForwardGroupConfig property

Property	Type	Required	Editable	Description	Constraint
ServerGroupTuples	List	Yes	Yes	The vServer groups to which requests are forwarded.	For more information, see ServerGroupTuples property.

ServerGroupTuples syntax

```
"ServerGroupTuples": [
  {
    "ServerGroupId": String
  }
]
```

ServerGroupTuples property

Property	Type	Required	Editable	Description	Constraint
ServerGroupId	String	Yes	Yes	The ID of the vServer group to which requests are forwarded.	None

Certificates syntax

```
"Certificates": [
  {
    "CertificateId": String
  }
]
```

Certificates property

Property	Type	Required	Editable	Description	Constraint
CertificateId	String	No	Yes	The ID of the certificate.	Only server certificates are supported.

QuicConfig syntax

```
"QuicConfig": {
  "QuicListenerId": String,
  "QuicUpgradeEnabled": Boolean
}
```

QuicConfig properties

Property	Type	Required	Editable	Description	Constraint
QuicListenerId	String	No	Yes	The ID of the QUIC listener.	This property is required when you set the QuicUpgradeEnabled property to true. **Note** • You can specify this property only for HTTPS listeners. • If you want to associate a QUIC listener with an HTTPS listener that is added to an ALB instance, make sure that you add the QUIC listener to the same instance as the HTTPS listener. You must also make sure that the QUIC listener has never been associated with another listener.
QuicUpgradeEnabled	Boolean	No	Yes	Specifies whether to enable QUIC upgrade.	Default value: false. Valid values: • true: enables QUIC upgrade. • false: disables QUIC upgrade. **Note** You can specify this property only for HTTPS listeners.

XForwardedForConfig syntax

```
"XForwardedForConfig": {
  "XForwardedForClientCertFingerprintAlias": String,
  "XForwardedForClientCertFingerprintEnabled": Boolean,
  "XForwardedForClientCertIssuerDNAlias": String,
  "XForwardedForClientCertClientVerifyAlias": String,
  "XForwardedForSLBIdEnabled": Boolean,
  "XForwardedForClientCertSubjectDNEnabled": Boolean,
  "XForwardedForClientCertSubjectDNAlias": String,
  "XForwardedForProtoEnabled": Boolean,
  "XForwardedForClientSrcPortEnabled": Boolean,
  "XForwardedForSLBPortEnabled": Boolean,
  "XForwardedForEnabled": Boolean,
  "XForwardedForClientCertIssuerDNEnabled": Boolean,
  "XForwardedForClientCertClientVerifyEnabled": Boolean
}
```

XForwardedForConfig properties

Property	Type	Required	Editable	Description	Constraint
XForwardedForClientCertFingerprintAlias	String	No	Yes	The name of the custom header. You can specify this property to query the fingerprint of the client certificate.	This property only takes effect when XForwardedForClientCertFingerprintEnabled is set to true. The name must be 1 to 40 characters in length, and can contain lowercase letters, digits, underscores (_), and hyphens (-). **Note** You can specify this property only for HTTPS listeners.
XForwardedForClientCertFingerprintEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Clientcert-fingerprint header to query the fingerprint of the client certificate.	Default value: false. Valid values: • true: uses the header. • false: does not use the header. **Note** You can specify this property only for HTTPS listeners.
XForwardedForClientCertIssuerDNAlias	String	No	Yes	The name of the custom header. You can specify this property to query information about the certification authority (CA) that issues the client certificate.	This property only takes effect when the XForwardedForClientCertIssuerDNEnabled property is set to On. The name must be 1 to 40 characters in length, and can contain lowercase letters, digits, underscores (_), and hyphens (-). **Note** You can specify this property only for HTTPS listeners.
XForwardedForClientCertClientVerifyAlias	String	No	Yes	The name of the custom header. You can specify this property to query the verification result of the client certificate.	This property only takes effect when XForwardedForClientCertClientVerifyEnabled is set to true. The name must be 1 to 40 characters in length, and can contain lowercase letters, digits, underscores (_), and hyphens (-). **Note** You can specify this property only for HTTPS listeners.

Property	Type	Required	Editable	Description	Constraint
XForwardedForSLBIdEnabled	Boolean	No	Yes	Specifies whether to use the SLB-ID header to query the ID of the ALB instance.	Default value: false. Valid values: • true: uses the header. • false: does not use the header.
XForwardedForClientCertSubjectDNEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Clientcert-subjectdn header to query information about the owner of the client certificate.	Default value: false. Valid values: • true: uses the header. • false: does not use the header. **Note** You can specify this property only for HTTPS listeners.
XForwardedForClientCertSubjectDNAlias	String	No	Yes	The name of the custom header. You can specify this property to query information about the owner of the client certificate.	This property only takes effect when the XForwardedForClientCertSubjectDNEnabled property is set to true. The name must be 1 to 40 characters in length, and can contain lowercase letters, digits, underscores (_), and hyphens (-). **Note** You can specify this property only for HTTPS listeners.
XForwardedForProtoEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Proto header to query the listening protocol.	Default value: false. Valid values: • true: uses the header. • false: does not use the header.
XForwardedForClientSrcPortEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Client-Port header to query the client port.	Default value: false. Valid values: • true: uses the header. • false: does not use the header. **Note** You can specify this property for HTTP and HTTPS listeners.
XForwardedForSLBPortEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Port header to query the listening port.	Default value: false. Valid values: • true: uses the header. • false: does not use the header.
XForwardedForEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-For header to query the real IP address of the client.	Default value: true. Valid values: • true: uses the header. • false: does not use the header. **Note** You can specify this property for HTTP and HTTPS listeners.

Property	Type	Required	Editable	Description	Constraint
XForwardedForClientCertIssuerDNEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Clientcert-issuerdn header to query information about the CA that issues the client certificate.	Default value: false. Valid values: • true: uses the header. • false: does not use the header. Note You can specify this property only for HTTPS listeners.
XForwardedForClientCertClientVerifyEnabled	Boolean	No	Yes	Specifies whether to use the X-Forwarded-Clientcert-clientverify header to query the verification result of the client certificate.	Default value: false. Valid values: • true: uses the header. • false: does not use the header. Note You can specify this property only for HTTPS listeners.

Return values

Fn::GetAtt

ListenerId: the ID of the listener.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ListenerPort": {
      "Type": "Number",
      "Description": "The frontend port that is used by the ALB instance.\nValid values: 1 to 65535.",
      "MinValue": 1,
      "MaxValue": 65535,
      "Default": 80
    },
    "DefaultActions": {
      "Type": "Json",
      "Description": "The actions of the rule.",
      "Default": [
        {
          "ForwardGroupConfig": {
            "ServerGroupTuples": [
              {
                "ServerGroupId": "sgp-46ndzg2wz4v5mp****"
              }
            ]
          },
          "Type": "ForwardGroup"
        }
      ]
    },
    "LoadBalancerId": {
      "Type": "String",
      "Description": "The ID of the ALB instance.",
      "Default": "lb-bp1iilcd9ujny84z8****"
    },
    "ListenerProtocol": {
      "Type": "String",
      "Description": "The listener protocol.\nValid values: HTTP, HTTPS, and QUIC.",
      "AllowedValues": [
        "HTTP",
        "HTTPS",
        "QUIC"
      ],
      "Default": "HTTP"
    }
  },
  "Resources": {
    "Listener": {
      "Type": "ALIYUN::ALB::Listener",
      "Properties": {
        "ListenerPort": {
          "Ref": "ListenerPort"
        },
        "DefaultActions": {
          "Ref": "DefaultActions"
        },
        "LoadBalancerId": {
          "Ref": "LoadBalancerId"
        },
        "ListenerProtocol": {
          "Ref": "ListenerProtocol"
        }
      }
    }
  },
  "Outputs": {
    "ListenerId": {
      "Description": "The ID of the listener.",
      "Value": {
        "Fn::GetAtt": [
          "Listener",
          "ListenerId"
        ]
      }
    }
  }
}
```

8.3. ALIYUN::ALB::LoadBalancer

ALIYUN::ALB::LoadBalancer is used to create an Application Load Balancer (ALB) instance.

Syntax

```
{
  "Type": "ALIYUN::ALB::LoadBalancer",
  "Properties": {
    "LoadBalancerName": String,
    "LoadBalancerEdition": String,
    "VpcId": String,
    "ResourceGroupId": String,
    "LoadBalancerBillingConfig": Map,
    "AddressType": String,
    "AddressAllocatedMode": String,
    "ZoneMappings": List,
    "DeletionProtectionEnabled": Boolean,
    "ModificationProtectionConfig": Map,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LoadBalancerName	String	Yes	Yes	The name of the ALB instance.	The name must be 1 to 80 characters in length, and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), and underscores (_). By default, if you do not specify this property, the system assigns a name as the value of this property.
LoadBalancerEdition	String	Yes	No	The edition of the ALB instance.	Valid values: • Basic: Basic Edition • Standard: Standard Edition
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC).	None.
ResourceGroupId	String	No	No	The ID of the resource group.	None.
LoadBalancerBillingConfig	Map	Yes	No	The configuration of the billing method.	For more information, see LoadBalancerBillingConfig property.
AddressType	String	Yes	No	The type of the IP address that is used by the ALB instance to provide services.	Valid values: • Internet: a public IP address. The domain name of the ALB instance is resolved to the public IP address. Therefore, the ALB instance can be accessed over the Internet. • Intranet: a private IP address. The domain name of the ALB instance is resolved to the private IP address. Therefore, the ALB instance can be accessed over the VPC in which the ALB instance is deployed.
AddressAllocatedMode	String	No	No	The method that is used to assign IP addresses.	Default value: Dynamic. Valid values: • Fixed: The ALB instance uses a static IP address. • Dynamic: The ALB instance in each zone uses one or more IP addresses that are automatically assigned based on your workloads.

Property	Type	Required	Editable	Description	Constraint
ZoneMappings	List	Yes	No	The mappings between zones and vSwitches.	You must specify at least two zones. For more information, see ZoneMappings properties.
DeletionProtectionEnabled	Boolean	No	Yes	Specifies whether to enable deletion protection.	Default value: false. Valid values: • true: enables deletion protection. • false: disables deletion protection.
ModificationProtectionConfig	Map	No	Yes	The configuration of the configuration read-only mode.	For more information, see ModificationProtectionConfig properties.
Tags	List	No	Yes	The tags of the ALB instance.	You can add up to 20 tags when you create an ALB instance. Each tag consists of a key and a value. You must specify a key for a tag. For more information, see Tags properties.

LoadBalancerBillingConfig syntax

```
"LoadBalancerBillingConfig": {
  "PayType": String
}
```

LoadBalancerBillingConfig property

Property	Type	Required	Editable	Description	Constraint
PayType	String	Yes	No	The billing method of the ALB instance.	Set the value to PostPay, which specifies the pay-as-you-go billing method.

ZoneMappings syntax

```
"ZoneMappings": [
  {
    "ZoneId": String,
    "VSwitchId": String
  }
]
```

ZoneMappings properties

Property	Type	Required	Editable	Description	Constraint
ZoneId	String	Yes	No	The ID of the zone.	None.
VSwitchId	String	Yes	No	The ID of the vSwitch.	Each zone can contain only one vSwitch.

ModificationProtectionConfig syntax

```
"ModificationProtectionConfig": {
  "Status": String,
  "Reason": String
}
```

ModificationProtectionConfig properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Status	String	Yes	Yes	The status of the configuration read-only mode.	Valid values: • NonProtection: disables the configuration read-only mode. In this case, you cannot specify the Reason property. If you have already specified the Reason property, the property value is cleared. • ConsoleProtection: enables the configuration read-only mode. In this case, you can specify the Reason property.
Reason	String	No	Yes	The reason why you enable the configuration read-only mode.	The reason must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The reason must start with a letter. **Note** This property only takes effect when the Status property is set to ConsoleProtection.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- LoadBalancerEdition: the edition of the ALB instance.
- VpcId: the ID of the VPC.
- LoadBalancerId: the ID of the ALB instance.
- AddressType: the type of the IP address that is used by the ALB instance to provide services.
- DNSName: the domain name of the ALB instance.
- ZoneMappings: the mappings between zones and vSwitches.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LoadBalancerName": {
      "Type": "String",
```

```
      "Description": "The name of the ALB instance.\nThe name must be 2 to 128 characters in length, and can contain letters, d
igits, periods(.), underscores (_), and hyphens (-). The name must start with a letter.",
      "Default": "test_slb"
    },
    "LoadBalancerEdition": {
      "Type": "String",
      "Description": "The edition of the ALB instance. Different editions have different limits and billing methods. Valid valu
es:\nBasic: Basic Edition\nStandard: Standard Edition",
      "Default": "Basic"
    },
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the virtual private cloud (VPC) where the ALB instance is deployed.",
      "Default": "vpc-bp1bqklz6zm4fo4ir****"
    },
    "LoadBalancerBillingConfig": {
      "Type": "Json",
      "Description": "The configuration of the billing method.",
      "Default": {
        "PayType": "PostPay"
      }
    },
    "ZoneMappings": {
      "Type": "Json",
      "Description": "The zones and the vSwitches in the zones. You must specify at least two zones.",
      "Default": [
        {
          "ZoneId": "cn-hangzhou-h",
          "VSwitchId": "vsw-bp1jhj254nwc7i0ge****"
        },
        {
          "ZoneId": "cn-hangzhou-i",
          "VSwitchId": "vsw-bp1llps83qqb30znp****"
        }
      ]
    },
    "AddressType": {
      "Type": "String",
      "Description": "The type of IP address that the ALB instance uses to provide services. Valid values:\nInternet: The ALB i
nstance uses a public IP address. The domain name of the ALB instance is resolved to the public IP address. Therefore, the ALB
instance can be accessed over the Internet.\nIntranet: The ALB instance uses a private IP address. The domain name of the ALB i
nstance is resolved to the private IP address. Therefore, the ALB instance can be accessed over the VPC where the ALB instance
is deployed.",
      "AllowedValues": [
        "Internet",
        "Intranet"
      ],
      "Default": "Internet"
    }
  },
  "Resources": {
    "LoadBalancer": {
      "Type": "ALIYUN::ALB::LoadBalancer",
      "Properties": {
        "LoadBalancerName": {
          "Ref": "LoadBalancerName"
        },
        "LoadBalancerEdition": {
          "Ref": "LoadBalancerEdition"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "LoadBalancerBillingConfig": {
          "Ref": "LoadBalancerBillingConfig"
        },
        "ZoneMappings": {
          "Ref": "ZoneMappings"
        },
        "AddressType": {
          "Ref": "AddressType"
        }
      }
    }
```

```
  },
  "Outputs": {
    "LoadBalancerEdition": {
      "Description": "The edition of the ALB instance.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancer",
          "LoadBalancerEdition"
        ]
      }
    },
    "VpcId": {
      "Description": "The ID of the virtual private cloud (VPC) where the ALB instance is deployed.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancer",
          "VpcId"
        ]
      }
    },
    "LoadBalancerId": {
      "Description": "The ID of the ALB instance.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancer",
          "LoadBalancerId"
        ]
      }
    },
    "AddressType": {
      "Description": "The type of IP address that the ALB instance uses to provide services.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancer",
          "AddressType"
        ]
      }
    },
    "DNSName": {
      "Description": "The domain name of the ALB instance.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancer",
          "DNSName"
        ]
      }
    },
    "ZoneMappings": {
      "Description": "The zones, vSwitches and addresses which are mapped to the zones.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancer",
          "ZoneMappings"
        ]
      }
    }
  }
}
```

8.4. ALIYUN::ALB::Rule

ALIYUN::Config::Rule is used to create a forwarding rule.

Syntax

```
{
  "Type": "ALIYUN::ALB::Rule",
  "Properties": {
    "RuleActions": List,
    "Priority": Integer,
    "RuleConditions": List,
    "Direction": String,
    "RuleName": String,
    "ListenerId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RuleActions	List	Yes	Yes	The actions that are performed based on the forwarding rule.	For more information, see RuleActions properties.
Priority	Integer	Yes	Yes	The priority of the forwarding rule.	Valid values: 1 to 10000. A smaller value indicates a higher priority. **Note** The priority of each forwarding rule that you specify for a listener must be unique.
RuleConditions	List	Yes	Yes	The conditions for the forwarding rule.	For more information, see RuleConditions properties.
Direction	String	No	No	The direction to which the forwarding rule is applied.	Valid values: • Request: inbound • Response: outbound
RuleName	String	Yes	Yes	The name of the forwarding rule.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_) and hyphens (-). The name must start with a letter.
ListenerId	String	Yes	No	The ID of the listener that is added to the Application Load Balancer (ALB) instance.	None.

RuleActions syntax

```
"RuleActions": [
  {
    "Order": Integer,
    "FixedResponseConfig": Map,
    "Type": String,
    "RedirectConfig": Map,
    "ForwardGroupConfig": Map,
    "InsertHeaderConfig": Map,
    "RewriteConfig": Map
  }
]
```

RuleActions properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Order	Integer	Yes	Yes	The priority of the action that is performed based on the forwarding rule.	Valid values: 1 to 50000. A lower value specifies a higher priority. When a forwarding rule is used, the actions are performed in descending order of the priority. **Note** The priority of an action that is performed based on a forwarding rule must be unique.
FixedResponseConfig	Map	No	Yes	The configuration of the fixed response.	For more information, see FixedResponseConfig properties.
Type	String	Yes	Yes	The type of the action.	Valid values: • ForwardGroup: forwards a request to multiple vServer groups. • Redirect: redirects a request. • FixedResponse: returns a fixed response. • Rewrite: rewrites a request. • InsertHeader: adds a header to a request.
RedirectConfig	Map	No	Yes	The configuration of the redirect action.	For more information, see RedirectConfig properties.
ForwardGroupConfig	Map	No	Yes	The configuration of the vServer group.	For more information, see ForwardGroupConfig property.
InsertHeaderConfig	Map	No	Yes	The configuration of the header that you add to a request.	For more information, see InsertHeaderConfig properties.
RewriteConfig	Map	No	Yes	The configuration of the rewrite action.	For more information, see RewriteConfig properties.

FixedResponseConfig syntax

```
"FixedResponseConfig": {
  "HttpCode": String,
  "ContentType": String,
  "Content": String
}
```

FixedResponseConfig properties

Property	Type	Required	Editable	Description	Constraint
HttpCode	String	No	Yes	The HTTP status code that is returned.	Valid values: HTTP_2xx, HTTP_4xx, and HTTP_5xx. x is a digit.
ContentType	String	No	Yes	The format of the fixed response.	Valid values: • text/plain • text/css • text/html • application/javascript • application/json

Property	Type	Required	Editable	Description	Constraint
Content	String	No	Yes	The content of the fixed response.	The content can be up to 1 KB in size and can contain only ASCII characters.

RedirectConfig syntax

```
"RedirectConfig": {
  "Path": String,
  "HttpCode": Integer,
  "Query": String,
  "Port": String,
  "Host": String,
  "Protocol": String
}
```

RedirectConfig properties

Property	Type	Required	Editable	Description	Constraint

Path	String	No	Yes	The path of the URL to which requests are redirected.	Default value: ${path}. Valid values:
					• ${path}. You can reference ${host}, ${protocol}, and ${port} in the value. You can reference each variable only once in a path. You can specify all the preceding variables in a path at a time. You can also combine the variables and the following characters.
					• A custom value. You must make sure that the custom value meets the following requirements:
					  ○ The value must be 1 to 128 characters in length.
					  ○ The value must start with a forward slash (/). The value can contain letters, digits, and the following special characters: `$ - _ .+ / & ~ @ : * ?`. The value cannot contain the following special characters: `% # ; ! () [] ^ , "`.
					  ○ The value is case-sensitive.

HttpCode	Integer	No	Yes	The redirect type.	Valid values: • 301 • 302 • 303 • 307 • 308

Property	Type	Required	Editable	Description	Constraint

Query	String	No	Yes	The query string of the URL to which requests are redirected.	Default value: ${query}. Valid values:
					• ${query}. You can reference ${host}, ${protocol}, and ${port} in the value. You can reference each variable only once in a query string. You can specify all the preceding variables in a query string at a time. You can also combine the variables and the following characters.
					• A custom value. You must make sure that the custom value meets the following requirements:
					  ○ The value must be 1 to 128 characters in length.
					  ○ The value cannot contain a space and the following special characters: `# [] {} \ | <> &` .
					  ○ The value must be lowercase letters.

Port	String	No	Yes	The port to which requests are redirected.	Default value: ${port}. Valid values: • ${port}. You cannot combine ${port} and characters. • A custom value. Valid values: 1 to 63335.

Host	String	No	Yes	The URL of the host to which requests are redirected.	Default value: ${host}. Valid values:
					• ${host}. You cannot combine ${host} and characters.
					• A custom value. You must make sure that the custom value meets the following requirements:
					  ○ The hostname must be 3 to 128 characters in length, and can contain lowercase letters, digits, hyphens (-), periods (.), asterisks (∗), and question marks (?).
					  ○ The hostname must contain at least one period (.) but cannot start or end with a period (.).
					  ○ The rightmost domain label can contain only letters and wildcard characters but cannot contain digits or hyphens (-).
					  ○ The domain label cannot start or end with hyphens (-).
					  ○ You can specify asterisks (∗) and question marks (?) anywhere in a domain label.

Protocol	String	No	Yes	The redirect protocol.	Default value: ${protocol}. Valid values: • ${protocol}. You cannot combine ${protocol} and characters. • HTTP • HTTPS **Note** HTTPS listeners support only HTTPS to HTTPS redirects.

ForwardGroupConfig syntax

```
"ForwardGroupConfig": {
  "ServerGroupTuples": List
}
```

ForwardGroupConfig property

Property	Type	Required	Editable	Description	Constraint
ServerGroupTuples	List	No	Yes	The vServer groups to which requests are forwarded.	For more information, see ServerGroupTuples property.

ServerGroupTuples syntax

```
"ServerGroupTuples": [
  {
    "ServerGroupId": String
  }
]
```

ServerGroupTuples property

Property	Type	Required	Editable	Description	Constraint
ServerGroupId	String	No	Yes	The ID of the vServer group to which requests are forwarded.	None

InsertHeaderConfig syntax

```
"InsertHeaderConfig": {
  "ValueType": String,
  "Value": String,
  "Key": String
}
```

InsertHeaderConfig properties

Property	Type	Required	Editable	Description	Constraint
ValueType	String	No	Yes	The type of the header.	Valid values: • UserDefined: a custom header that you specify • ReferenceHeader: a header that you reference from one of the request headers • SystemDefined: a header that is defined by the system

Property	Type	Required	Editable	Description	Constraint
Value	String	No	Yes	The value of the header.	• If you set the ValueType property to SystemDefined, you can set the Value property to one of the following values: ○ ClientSrcPort: the port of the client. ○ ClientSrcIp: the IP address of the client. ○ Protocol: the request protocol of the client. You can set the protocol to HTTP or HTTPS. ○ SLBId: the ID of the ALB instance. ○ SLBPort: the listening port of the ALB instance. • If you set the ValueType property to ReferenceHeader, you must take note of the following items: You can reference one of the request headers. The header must be 1 to 128 characters in length, and can contain lowercase letters, digits, hyphens (-), and underscores (_).
Key	String	No	Yes	The name of the header.	The name must be 1 to 40 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The header name that you specify for the InsertHeaderConfig property must be unique. **Note** The name is not case-sensitive. You cannot set a header name to one of the following values: slb-id, slb-ip, x-forwarded-for, x-forwarded-proto, x-forwarded-eip, x-forwarded-port, x-forwarded-client-srcport, connection, upgrade, content-length, transfer-encoding, keep-alive, te, host, cookie, remoteip, and authority.

RewriteConfig syntax

```
"RewriteConfig": {
  "Path": String,
  "Query": String,
  "Host": String
}
```

RewriteConfig properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Path	String	No	Yes	The path of the URL to which requests are redirected.	Default value: ${path}. Valid values: • ${path}. You can reference ${host}, ${protocol}, and ${port} in the value. You can reference each variable only once in a path. You can specify all the preceding variables in a path at a time. You can also combine the variables and the following characters. • A custom value. You must make sure that the custom value meets the following requirements: ○ The value must be 1 to 128 characters in length. ○ The value must start with a forward slash (/). The value can contain letters, digits, and the following special characters: `$ - _ .+ / & ~ @ : * ?`. The value cannot contain the following special characters: `% # ; ! () [] ^ , "`. ○ The value is case-sensitive.
Query	String	No	Yes	The query string of the URL to which requests are redirected.	Default value: ${query}. Valid values: • ${query}. You can reference ${host}, ${protocol}, and ${port} in the value. You can reference each variable only once in a query string. You can specify all the preceding variables in a query string at a time. You can also combine the variables and the following characters. • A custom value. You must make sure that the custom value meets the following requirements: ○ The value must be 1 to 128 characters in length. ○ The value cannot contain a space and the following special characters: `# [] {} \ | <> &`. ○ The value must be lowercase letters.

Property	Type	Required	Editable	Description	Constraint

Host	String	No	Yes	The URL of the host to which requests are redirected.	Default value: ${host}. Valid values:
					• ${host}. You cannot combine ${host} and characters.
					• A custom value. You must make sure that the custom value meets the following requirements:
					  ○ The hostname must be 3 to 128 characters in length, and can contain lowercase letters, digits, hyphens (-), periods (.), asterisks (∗), and question marks (?).
					  ○ The hostname must contain at least one period (.) but cannot start or end with a period (.).
					  ○ The rightmost domain label can contain only letters and wildcard characters but cannot contain digits or hyphens (-).
					  ○ The domain label cannot start or end with hyphens (-).
					  ○ You can specify asterisks (∗) and question marks (?) anywhere in a domain label.

RuleConditions syntax

```
"RuleConditions": [
  {
    "MethodConfig": Map,
    "PathConfig": Map,
    "Type": String,
    "ResponseHeaderConfig": Map,
    "QueryStringConfig": Map,
    "HostConfig": Map,
    "CookieConfig": Map,
    "HeaderConfig": Map
  }
]
```

RuleConditions properties

Property	Type	Required	Editable	Description	Constraint
MethodConfig	Map	No	Yes	The configuration of the request method.	For more information, see MethodConfig property.
PathConfig	Map	No	Yes	The configuration of the path of the URL to which requests are redirected.	For more information, see PathConfig property.
Type	String	Yes	Yes	The type of the forwarding rule.	Valid values: • Host: forwards requests based on hosts. • Path: forwards requests based on paths. • Header: forwards requests based on HTTP headers. • QueryString: forwards requests based on query strings. • Method: forwards requests based on request methods. • Cookie: forwards requests based on cookies.

Property	Type	Required	Editable	Description	Constraint
ResponseHeaderConfig	Map	No	No	The configuration of the HTTP response header.	For more information, see ResponseHeaderConfig properties.
QueryStringConfig	Map	No	Yes	The configuration of the query string.	For more information, see QueryStringConfig property.
HostConfig	Map	No	Yes	The configuration of the host.	For more information, see HostConfig property.
CookieConfig	Map	No	Yes	The configuration of the cookie.	For more information, see CookieConfig property.
HeaderConfig	Map	No	Yes	The configuration of the header.	For more information, see HeaderConfig properties.

MethodConfig syntax

```
"MethodConfig": {
  "Values": List
}
```

MethodConfig property

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The request method.	Valid values: • HEAD • GET • POST • OPTIONS • PUT • PATCH • DELETE

PathConfig syntax

```
"PathConfig": {
  "Values": List
}
```

PathConfig property

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The path of the URL.	The path must be 1 to 128 characters in length, and can contain letters, digits, asterisks (∗), question marks (?), and the following special characters: `$ - _ . + / & ~ @ :`. The path cannot contain the following special characters: `% # ; ! () [] ^ , "`. The path must start with a forward slash (/). The path is case-sensitive.

ResponseHeaderConfig syntax

```
"ResponseHeaderConfig": {
  "Values": List,
  "Key": String
}
```

ResponseHeaderConfig properties

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The value of the header.	None.
Key	String	No	Yes	The name of the header.	The name must be 1 to 40 characters in length, and can contain letters, digits, hyphens (-), and underscores (_). You cannot configure cookies or hosts.

QueryStringConfig syntax

```
"QueryStringConfig": {
  "Values": List
}
```

QueryStringConfig property

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The value of the query string.	None

HostConfig syntax

```
"HostConfig": {
  "Values": List
}
```

HostConfig property

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The hostname.	You must make sure that the value meets the following requirements: • A forwarding rule can contain only one hostname. The hostname that you specify for a forwarding rule must be unique. • The hostname must contain at least one period (.) but cannot start or end with a period (.). • The rightmost domain label can contain only letters and wildcard characters but cannot contain digits or hyphens (-). • The domain label cannot start or end with hyphens (-). You can specify asterisks (*) and question marks (?) anywhere in a domain label.

CookieConfig syntax

```
"CookieConfig": {
  "Values": List
}
```

CookieConfig property

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The value of the cookie.	None

HeaderConfig syntax

```
"HeaderConfig": {
  "Values": List,
  "Key": String
}
```

HeaderConfig properties

Property	Type	Required	Editable	Description	Constraint
Values	List	No	Yes	The value of the header.	The value that you specify for a header in a forwarding rule must be unique. The value must be 1 to 128 characters in length, and can contain asterisks (*), question marks (?), and printable characters of the ASCII code from 32 and to 126 (`ch >= 32 && ch < 127`). The value cannot start or end with a space.
Key	String	No	Yes	The name of the header.	The name must be 1 to 40 characters in length, and can contain lowercase letters, digits, hyphens (-), and underscores (_). You cannot configure cookies or hosts.

Return values

Fn::GetAtt

RuleId: the ID of the forwarding rule.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "RuleActions": {
      "Type": "Json",
      "Description": "The actions of the forwarding rule.",
      "Default": [
        {
          "FixedResponseConfig": {
            "Content": "dssacav",
            "ContentType": "text/plain",
            "HttpCode": "200"
          },
          "ForwardGroupConfig": {
            "ServerGroupTuples": [
              {
                "ServerGroupId": "sgp-46ndzg2wz4v5mp****"
              }
            ]
          },
          "InsertHeaderConfig": {
            "Key": "key",
            "Value": "ClientSrcPort",
            "ValueType": "SystemDefined"
          },
          "Order": 1,
          "RedirectConfig": {
            "Host": "${host}",
            "HttpCode": "301",
            "Path": "/test",
            "Port": "10",
            "Protocol": "HTTP",
            "Query": "quert"
          },
          "RewriteConfig": {
            "Host": "example.com",
            "Path": "/tsdf",
            "Query": "quedsa"
          },
```

```
          "Type": "ForwardGroup"
        }
      ]
    },
    "Priority": {
      "Type": "Number",
      "Description": "The priority of the forwarding rule. Valid values: 1 to 10000. A lower value specifies a higher priority.
\nNote The priority of each forwarding rule within a listener must be unique.",
      "MinValue": 1,
      "MaxValue": 10000,
      "Default": 10
    },
    "RuleConditions": {
      "Type": "Json",
      "Description": "The conditions of the forwarding rule.",
      "Default": [
        {
          "CookieConfig": {
            "Values": [
              {
                "Key": "test",
                "Value": "test"
              }
            ]
          },
          "HeaderConfig": {
            "Key": "port",
            "Values": [
              "5006"
            ]
          },
          "HostConfig": {
            "Values": [
              "www.example.com"
            ]
          },
          "MethodConfig": {
            "Values": [
              "PUT"
            ]
          },
          "PathConfig": {
            "Values": [
              "/test"
            ]
          },
          "QueryStringConfig": {
            "Values": [
              {
                "Key": "test",
                "Value": "test"
              }
            ]
          },
          "Type": "Host"
        }
      ]
    },
    "RuleName": {
      "Type": "String",
      "Description": "The name of the forwarding rule.\nThe name must be 2 to 128 characters in length.\nIt can contain letters
, digits, periods (.), underscores (_), and hyphens (-). It\nmust start with a letter.",
      "Default": "MyTestRule"
    },
    "ListenerId": {
      "Type": "String",
      "Description": "The ID of the listener that is configured for the Application Load Balancer (ALB)\ninstance.",
      "Default": "lsn-5tl4x9oav95yeb****"
    }
  },
  "Resources": {
    "Rule": {
      "Type": "ALIYUN::ALB::Rule",
      "Properties": {
```

```
        "RuleActions": {
          "Ref": "RuleActions"
        },
        "Priority": {
          "Ref": "Priority"
        },
        "RuleConditions": {
          "Ref": "RuleConditions"
        },
        "RuleName": {
          "Ref": "RuleName"
        },
        "ListenerId": {
          "Ref": "ListenerId"
        }
      }
    }
  },
  "Outputs": {
    "RuleId": {
      "Description": "The ID of the forwarding rules.",
      "Value": {
        "Fn::GetAtt": [
          "Rule",
          "RuleId"
        ]
      }
    }
  }
}
```

8.5. ALIYUN::ALB::ServerGroup

ALIYUN::ALB::ServerGroup is used to create a server group.

Syntax

```
{
  "Type": "ALIYUN::ALB::ServerGroup",
  "Properties": {
    "VpcId": String,
    "ResourceGroupId": String,
    "Scheduler": String,
    "StickySessionConfig": Map,
    "HealthCheckConfig": Map,
    "Protocol": String,
    "ServerGroupType": String,
    "ServerGroupName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC).	You can add only servers that are deployed in the VPC to the server group.
ResourceGroupId	String	No	Yes	The ID of the resource group.	None.

Property	Type	Required	Editable	Description	Constraint
Scheduler	String	No	Yes	The scheduling algorithm.	Default value: Wrr. Valid values: • Wrr: Backend servers that have higher weights receive more requests than backend servers that have lower weights. • Wlc: Requests are distributed based on the weights and number of connections to backend servers. If multiple backend servers have the same weight, the backend server that has the least connections receives more requests. • Sch: Consistent hashing is performed in source IP addresses.
StickySessionConfig	Map	No	Yes	The configurations of session persistence.	For more information, see StickySessionConfig properties.
HealthCheckConfig	Map	Yes	Yes	The configurations of health checks.	For more information, see HealthCheckConfig properties.
Protocol	String	No	No	The backend protocol.	Default value: HTTP. Valid values: • HTTP: allows you to associate HTTPS, HTTP, or Quick UDP Internet Connections (QUIC) listeners with the server group. • HTTPS: allows you to associate only HTTPS listeners with the server group.
ServerGroupType	String	No	No	The type of the server group.	Default value: Instance. Valid values: • `Instance` : servers • `Ip` : IP addresses
ServerGroupName	String	Yes	Yes	The name of the server group.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The name must start with a letter.

StickySessionConfig syntax

```
"StickySessionConfig": {
  "Cookie": String,
  "CookieTimeout": Integer,
  "StickySessionType": String,
  "StickySessionEnabled": Boolean
}
```

StickySessionConfig properties

Property	Type	Required	Editable	Description	Constraint
Cookie	String	No	Yes	The cookie that you configure for the server.	The cookie must be 1 to 200 characters in length, and can contain letters and digits. The cookie cannot contain commas (,), semicolons (;), or spaces. The cookie cannot start with a dollar sign ($). **Note** This property is required when you set the StickySessionEnabled property to true and the StickySessionType property to Server.

Property	Type	Required	Editable	Description	Constraint
CookieTimeout	Integer	No	Yes	The timeout period of the cookie.	Valid values: 1 to 86400. Default value: 1000. Unit: seconds. **Note** This property is required when you set the StickySessionEnabled property to true and the StickySessionType property to Insert.
StickySessionType	String	No	Yes	The method that is used to handle the cookie.	Default value: Insert. Valid values: • Insert: inserts a cookie. Application Load Server (ALB) inserts the cookie SERVERID into the first HTTP or HTTPS response packet that is sent to a client. The next request from the client carries the cookie and ALB forwards this request to the backend server that is associated with ALB. • Server: rewrites a cookie. When ALB detects a custom cookie that you specify, ALB uses the custom cookie to overwrite the original cookie. The next request from the client carries the custom cookie and ALB forwards this request to the backend server that is associated with ALB. **Note** This property is required when you set the StickySessionEnabled property to true.
StickySessionEnabled	Boolean	No	Yes	Specifies whether to enable session persistence.	Valid values: • true: enables session persistence. • false: disables session persistence. **Note** This property is required when you set the ServerGroupType property to `Instance` or `Ip`.

HealthCheckConfig syntax

```
"HealthCheckConfig": {
  "HealthCheckInterval": Integer,
  "HealthCheckConnectPort": Integer,
  "HealthCheckCodes": List,
  "UnhealthyThreshold": Integer,
  "HealthCheckMethod": String,
  "HealthCheckPath": String,
  "HealthCheckHost": String,
  "HealthyThreshold": Integer,
  "HealthCheckProtocol": String,
  "HealthCheckHttpVersion": String,
  "HealthCheckEnabled": Boolean,
  "HealthCheckTimeout": Integer
}
```

HealthCheckConfig properties

Property	Type	Required	Editable	Description	Constraint
HealthCheckInterval	Integer	No	Yes	The interval between consecutive health checks.	Valid values: 1 to 50. Default value: 2. Unit: seconds.
HealthCheckConnectPort	Integer	No	Yes	The backend server port that is used for health checks.	Valid values: 0 to 65535. Default value: 0. This value specifies that the port of a backend server is used for health checks.
HealthCheckCodes	List	No	Yes	The status codes for health checks.	Default value: http_2xx. Valid values: • http_2xx • http_3xx • http_4xx • http_5xx **Note** This property only takes effect when the HealthCheckProtocol property is set to HTTP.
UnhealthyThreshold	Integer	No	Yes	The number of consecutive failed health checks that must occur in a healthy backend server before the backend server is declared unhealthy. When this number is reached, the health check status is changed from successful to failed.	Valid values: 2 to 10. Default value: 3.
HealthCheckMethod	String	No	Yes	The health check method.	Default value: HEAD. Valid values: • GET • HEAD **Note** This property only takes effect when the HealthCheckProtocol property is set to HTTP.
HealthCheckPath	String	No	Yes	The path that is used for health checks.	The path must be 1 to 80 characters in length, and can contain letters, digits, and special characters. Special characters include `- / . % ? # & = _ ; ~ ! ( ) * [ ] @ $ ^ : ' , +`. The path must start with a forward slash (/). **Note** This property only takes effect when the HealthCheckProtocol property is set to HTTP.

Property	Type	Required	Editable	Description	Constraint
HealthCheckHost	String	No	Yes	The domain name that is used for health checks.	The domain name must be 1 to 80 characters in length, and can contain lowercase letters, digits, hyphens (-), and periods (.). The rightmost domain label can contain only letters but cannot contain digits or hyphens (-). Other domain labels cannot start or end with a hyphen (-). **Note** This property only takes effect when the HealthCheckProtocol property is set to HTTP.
HealthyThreshold	Integer	No	Yes	The number of consecutive successful health checks that must occur in an unhealthy backend server before the backend server is declared healthy. When this number is reached, the health check status is changed from failed to successful.	Valid values: 2 to 10. Default value: 3.
HealthCheckProtocol	String	No	Yes	The protocol that is used for health checks.	Valid values: • HTTP • HTTPS
HealthCheckHttpVersion	String	No	Yes	The version of HTTP that is used for health checks.	Default value: HTTP1.1. Valid values: • HTTP1.0 • HTTP1.1 **Note** This property only takes effect when the HealthCheckProtocol property is set to HTTP.
HealthCheckEnabled	Boolean	Yes	Yes	Specifies whether to enable health checks.	Valid values: • true: enables health checks. • false: disables health checks.

Property	Type	Required	Editable	Description	Constraint
HealthCheckTimeout	Integer	No	Yes	The timeout period of a health check response.	If a backend server, such as an Elastic Compute Service (ECS) instance, does not return a health check response within the specified timeout period, the server fails the health check. Valid values: 1 to 300. Default value: 5. Unit: seconds. **Note** If the value of the HealthCheckTimeout property is smaller than the value of the HealthCheckInterval property, the timeout period specified by the HealthCheckTimeout property becomes invalid and the value of the HealthCheckInterval property is used as the timeout period.

Return values

Fn::GetAtt

ServerGroupId: the ID of the server group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the virtual private cloud (VPC). You can add only servers that are deployed\nin the specified V
PC to the server group.\nNote This parameter is required if the ServerGroupType parameter is set to Instance or Ip.",
      "Default": "vpc-bp1vo0eez19cmlv1w****"
    },
    "StickySessionConfig": {
      "Type": "Json",
      "Description": "The configuration of session persistence.\nNote This parameter is required if the ServerGroupType paramet
er is set to Instance or Ip.",
      "Default": {
        "Cookie": "B490B5EBF6F3CD402E515D22****",
        "CookieTimeout": 1000,
        "StickySessionEnabled": true,
        "StickySessionType": "Insert"
      }
    },
    "HealthCheckConfig": {
      "Type": "Json",
      "Description": "The configuration of health checks.",
      "Default": {
        "HealthCheckConnectPort": 80,
        "HealthCheckEnabled": true,
        "HealthCheckHost": "www.example.com",
        "HealthCheckCodes": [
          "http_2xx"
        ],
        "HealthCheckHttpVersion": "HTTP1.0",
        "HealthCheckInterval": 5,
```

```
        "HealthCheckMethod": "HEAD",
        "HealthCheckPath": "/test/index.html",
        "HealthCheckProtocol": "HTTP",
        "HealthCheckTimeout": 3,
        "HealthyThreshold": 4,
        "UnhealthyThreshold": 4
      }
    },
    "ServerGroupName": {
      "Type": "String",
      "Description": "The name of the server group. The name must be 2 to 128 characters in length, and\ncan contain letters, d
igits, periods (.), underscores (_), and hyphens (-). The name\nmust start with a letter.",
      "Default": "MyTestServerGroup"
    }
  },
  "Resources": {
    "ServerGroup": {
      "Type": "ALIYUN::ALB::ServerGroup",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        },
        "StickySessionConfig": {
          "Ref": "StickySessionConfig"
        },
        "HealthCheckConfig": {
          "Ref": "HealthCheckConfig"
        },
        "ServerGroupName": {
          "Ref": "ServerGroupName"
        }
      }
    }
  },
  "Outputs": {
    "ServerGroupId": {
      "Description": "The ID of the server group.",
      "Value": {
        "Fn::GetAtt": [
          "ServerGroup",
          "ServerGroupId"
        ]
      }
    }
  }
}
```

9.BrainIndustrial

9.1. ALIYUN::BrainIndustrial::PidOrganization

ALIYUN::BrainIndustrial::PidOrganization is used to configure the architecture of a project.

Syntax

```
{
  "Type": "ALIYUN::BrainIndustrial::PidOrganization",
  "Properties": {
    "PidOrganizationName": String,
    "ParentPidOrganizationId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PidOrganizationName	String	Yes	Yes	The name of the Proportional Integral Derivative (PID) organization.	None
ParentPidOrganizationId	String	No	No	The ID of the parent PID organization.	None

Response parameters

Fn::GetAtt

- PidOrganizationName: the name of the PID organization.
- PidOrganizationLevel: the level of the PID organization.
- ParentPidOrganizationId: the ID of the parent PID organization.
- PidOrganizationId: the ID of the PID organization.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PidOrganizationName": {
      "Type": "String",
      "Description": "PidOrganizationName"
    },
    "ParentPidOrganizationId": {
      "Type": "String",
      "Description": "ParentPidOrganizationId"
    }
  },
  "Resources": {
    "BrainIndustrialPidOrganization": {
      "Type": "ALIYUN::BrainIndustrial::PidOrganization",
      "Properties": {
        "PidOrganizationName": {
          "Ref": "PidOrganizationName"
        },
        "ParentPidOrganizationId": {
          "Ref": "ParentPidOrganizationId"
        }
      }
    }
  },
  "Outputs": {
    "PidOrganizationName": {
      "Description": "PidOrganizationName",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidOrganization",
          "PidOrganizationName"
        ]
      }
    },
    "PidOrganizationLevel": {
      "Description": "PidOrganizationLevel",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidOrganization",
          "PidOrganizationLevel"
        ]
      }
    },
    "ParentPidOrganizationId": {
      "Description": "ParentPidOrganizationId",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidOrganization",
          "ParentPidOrganizationId"
        ]
      }
    },
    "PidOrganizationId": {
      "Description": "PidOrganizationId",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidOrganization",
          "PidOrganizationId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ParentPidOrganizationId:
    Description: ParentPidOrganizationId
    Type: String
  PidOrganizationName:
    Description: PidOrganizationName
    Type: String
Resources:
  BrainIndustrialPidOrganization:
    Properties:
      ParentPidOrganizationId:
        Ref: ParentPidOrganizationId
      PidOrganizationName:
        Ref: PidOrganizationName
    Type: ALIYUN::BrainIndustrial::PidOrganization
Outputs:
  ParentPidOrganizationId:
    Description: ParentPidOrganizationId
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidOrganization
      - ParentPidOrganizationId
  PidOrganizationId:
    Description: PidOrganizationId
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidOrganization
      - PidOrganizationId
  PidOrganizationLevel:
    Description: PidOrganizationLevel
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidOrganization
      - PidOrganizationLevel
  PidOrganizationName:
    Description: PidOrganizationName
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidOrganization
      - PidOrganizationName
```

9.2. ALIYUN::BrainIndustrial::PidProject

ALIYUN::BrainIndustrial::PidProject is used to add a project.

Syntax

```
{
  "Type": "ALIYUN::BrainIndustrial::PidProject",
  "Properties": {
    "PidProjectDesc": String,
    "PidProjectName": String,
    "PidOrganizationId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PidProjectDesc	String	No	Yes	The description of the Proportional Integral Derivative (PID) project.	None
PidProjectName	String	Yes	Yes	The name of the PID project.	None
PidOrganizationId	String	Yes	Yes	The ID of the PID organization.	None

Response parameters

Fn::GetAtt

- PidProjectDesc: the description of the PID project.
- PidProjectId: the ID of the PID project.
- PidProjectName: the name of the PID project.
- PidOrganizationId: the ID of the PID organization.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PidProjectDesc": {
      "Type": "String",
      "Description": "PidProjectDesc"
    },
    "PidProjectName": {
      "Type": "String",
      "Description": "PidProjectName"
    },
    "PidOrganizationId": {
      "Type": "String",
      "Description": "PidOrganizationId"
    }
  },
  "Resources": {
    "BrainIndustrialPidProject": {
      "Type": "ALIYUN::BrainIndustrial::PidProject",
      "Properties": {
        "PidProjectDesc": {
          "Ref": "PidProjectDesc"
        },
        "PidProjectName": {
          "Ref": "PidProjectName"
        },
        "PidOrganizationId": {
          "Ref": "PidOrganizationId"
        }
      }
    }
  },
  "Outputs": {
    "PidProjectDesc": {
      "Description": "PidProjectDesc",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidProject",
          "PidProjectDesc"
        ]
      }
    },
    "PidProjectId": {
      "Description": "PidProjectId",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidProject",
          "PidProjectId"
        ]
      }
    },
    "PidProjectName": {
      "Description": "PidProjectName",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidProject",
          "PidProjectName"
        ]
      }
    },
    "PidOrganizationId": {
      "Description": "PidOrganizationId",
      "Value": {
        "Fn::GetAtt": [
          "BrainIndustrialPidProject",
          "PidOrganizationId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PidOrganizationId:
    Description: PidOrganizationId
    Type: String
  PidProjectDesc:
    Description: PidProjectDesc
    Type: String
  PidProjectName:
    Description: PidProjectName
    Type: String
Resources:
  BrainIndustrialPidProject:
    Properties:
      PidOrganizationId:
        Ref: PidOrganizationId
      PidProjectDesc:
        Ref: PidProjectDesc
      PidProjectName:
        Ref: PidProjectName
    Type: ALIYUN::BrainIndustrial::PidProject
Outputs:
  PidOrganizationId:
    Description: PidOrganizationId
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidProject
      - PidOrganizationId
  PidProjectDesc:
    Description: PidProjectDesc
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidProject
      - PidProjectDesc
  PidProjectId:
    Description: PidProjectId
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidProject
      - PidProjectId
  PidProjectName:
    Description: PidProjectName
    Value:
      Fn::GetAtt:
      - BrainIndustrialPidProject
      - PidProjectName
```

10.BSS

10.1. ALIYUN::BSS::WaitOrder

ALIYUN::BSS::WaitOrder is used to wait for an order to be fulfilled.

Syntax

```
{
  "Type": "ALIYUN::BSS::WaitOrder",
  "Properties": {
    "OrderIds": List,
    "CancelOnDelete": Boolean,
    "WaitForOrderProduced": Boolean
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
OrderIds	List	Yes	No	The list of order IDs.	The list must include at least one order ID.
CancelOnDelete	Boolean	No	No	Specifies whether to cancel the order when the resource is deleted. Default value: true. Orders that have already been paid are ignored.	Currently, RAM users are not able to cancel orders.
WaitForOrderProduced	Boolean	No	No	Specifies whether to wait until all order-related ROS resources are produced. If this parameter is set to true, WaitOrder will wait for order-related ROS resources to be produced after the order is paid. Default value: false.	Currently supported resources include ALIYUN::ECS::PrepayInstance, ALIYUN::RDS::PrepayDBInstance, ALIYUN::SLB::LoadBalancer, and ALIYUN::VPC::EIP.

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Queue": {
      "Type": "ALIYUN::BSS::WaitOrder",
      "Properties": {
        "OrderIds": ['<OrderId1>', '<OrderId2>'],
        "WaitForOrderProduced": "true"
      }
    }
  }
}
```

10.2. ALIYUN::BSS::ResourcePackage

ALIYUN::BSS::ResourcePackage is used to create an instance that uses a resource plan.

Syntax

```
{
  "Type": "ALIYUN::BSS::ResourcePackage",
  "Properties": {
    "ProductCode": String,
    "PricingCycle": String,
    "PackageType": String,
    "Specification": String,
    "Duration": Integer,
    "EffectiveDate": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ProductCode	String	Yes	No	The code of the service to which the instance belongs.	You can call the QueryProductList operation to query the service code.
PricingCycle	String	No	No	The unit of validity period of the resource plan.	Default value: Month. Valid values: • Month • Year
PackageType	String	Yes	No	The type of the resource plan.	You can call the DescribeResourcePackageProduct operation to query the type. The value of the PackageType property is the same as the value of Code in the ResourcePackage parameter that is returned when the DescribeResourcePackageProduct operation is called.
Specification	String	Yes	No	The specification of the resource plan.	You can call the DescribeResourcePackageProduct operation to query the specification. The value of the Specification property is the same as the value of Value in the Specification parameter that is returned when the DescribeResourcePackageProduct operation is called.
Duration	Integer	Yes	No	The validity period of the resource plan.	You can call the DescribeResourcePackageProduct operation to query the validity period. The value of the Duration property is the same as the value of Value in the AvailableDuration parameter that is returned when the DescribeResourcePackageProduct operation is called.
EffectiveDate	String	No	No	The point in time when the resource plan takes effect.	If you do not specify this property, the resource plan immediately takes effect after you create the resource plan. Specify the time in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC.

Return values

Fn::GetAtt

- InstanceId: the ID of the instance.
- OrderId: the order ID.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ProductCode": {
      "Type": "String",
      "Description": "The code of the specified product. The value is the same as the value of ProductType returned by QueryPro
ductList.",
      "Default": "ossbag"
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "The validity of the specified resource package. Default value: Month. Valid values: Month, Year",
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "PackageType": {
      "Type": "String",
      "Description": "The type of the specified resource package. The value is the same as the value of the Code value of the R
esourcePackage object returned by DescribeResourcePackageProduct.",
      "Default": "FPT_ossbag_deadlineAcc_CdnOut_china_common"
    },
    "Specification": {
      "Type": "String",
      "Description": "The size of the specified resource package. The value is the same as the Value of Specification returned
by DescribeResourcePackageProduct.",
      "Default": "1024"
    },
    "Duration": {
      "Type": "Number",
      "Description": "The validity of the specified resource package. The value is the same as the Value of AvailableDuration r
eturned by DescribeResourcePackageProduct.",
      "Default": 6
    },
    "EffectiveDate": {
      "Type": "String",
      "Description": "The effective date of the specified resource package. The resource package will take effect immediately i
f the effective date is unspecified. The date format follows the ISO8601 standard and uses UTC time. Format: yyyy-MM-ddTHH:mm:s
sZ",
      "Default": "2021-12-03T12:00:00Z"
    }
  },
  "Resources": {
    "ResourcePackage": {
      "Type": "ALIYUN::BSS::ResourcePackage",
      "Properties": {
        "ProductCode": {
          "Ref": "ProductCode"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "PackageType": {
          "Ref": "PackageType"
        },
        "Specification": {
          "Ref": "Specification"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "EffectiveDate": {
          "Ref": "EffectiveDate"
        }
      }
    }
  },
  "Outputs": {
```

```
    "InstanceId": {
      "Description": "The ID of the specified instance.",
      "Value": {
        "Fn::GetAtt": [
          "ResourcePackage",
          "InstanceId"
        ]
      }
    },
    "OrderId": {
      "Description": "The ID of the specified order.",
      "Value": {
        "Fn::GetAtt": [
          "ResourcePackage",
          "OrderId"
        ]
      }
    }
  }
}
```

11.CAS

11.1. ALIYUN::CAS::Certificate

ALIYUN::CAS::Certificate is used to add a certificate.

Syntax

```
{
  "Type": "ALIYUN::CAS::Certificate",
  "Properties": {
    "Lang": String,
    "Cert": String,
    "SourceIp": String,
    "Name": String,
    "Key": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Lang	String	No	No	The language type of the request and response.	None.
Cert	String	Yes	No	The content of the certificate. The parameter value must be in the Privacy Enhanced Mail (PEM) format.	None.
SourceIp	String	No	No	The source IP address of the request.	None.
Name	String	Yes	No	The name of the certificate. The name must be unique in an Alibaba Cloud account.	None.
Key	String	Yes	No	The private key of the certificate. The parameter value must be in the PEM format.	None.

Response parameters

Fn::GetAtt

- CertId: the ID of the certificate.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Certificate": {
      "Type": "ALIYUN::CAS::Certificate",
      "Properties": {
        "Lang": {
          "Ref": "Lang"
        },
        "Cert": {
          "Ref": "Cert"
        },
        "SourceIp": {
          "Ref": "SourceIp"
        },
        "Name": {
          "Ref": "Name"
        },
        "Key": {
          "Ref": "Key"
        }
      }
    }
  },
  "Parameters": {
    "Lang": {
      "Type": "String",
      "Description": "Specifies the language type for requesting and receiving messages."
    },
    "Cert": {
      "Type": "String",
      "Description": "Specify the content of the certificate. To use the PEM encoding format."
    },
    "SourceIp": {
      "Type": "String",
      "Description": "Specifies the source IP address of the request."
    },
    "Name": {
      "Type": "String",
      "Description": "Custom certificate name. The certificate name under a user cannot be duplicated."
    },
    "Key": {
      "Type": "String",
      "Description": "Specify the certificate private key content. To use the PEM encoding format."
    }
  },
  "Outputs": {
    "CertId": {
      "Description": "Certificate ID.",
      "Value": {
        "Fn::GetAtt": [
          "Certificate",
          "CertId"
        ]
      }
    }
  }
}
```

12.CDDC

12.1. ALIYUN::CDDC::DedicatedHost

ALIYUN::CDDC::DedicatedHost is used to create a host in a dedicated cluster.

For more information about dedicated clusters, see What is ApsaraDB MyBase?

Syntax

```
{
  "Type": "ALIYUN::CDDC::DedicatedHost",
  "Properties": {
    "HostClass": String,
    "OsPassword": String,
    "ZoneId": String,
    "DedicatedHostGroupId": String,
    "AutoRenew": String,
    "VSwitchId": String,
    "UsedTime": String,
    "ImageCategory": String,
    "Period": String,
    "PaymentType": String,
    "HostName": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
HostClass	String	Yes	Yes	The instance type of the host.	For more information, see Instance types of hosts.
OsPassword	String	No	No	The password of the host.	You can create a host password only in a private cluster. The password must be 8 to 30 characters in length. It must contain at least three of the following characters: uppercase letters, lowercase letters, digits, and special characters. The following special characters are supported: `( ) \ ~ ! @ # $ % ^ & * - _ + = | { } [ ] : ; ' < > , . ? /`
ZoneId	String	Yes	No	The ID of the zone.	For example, the ID of the zone is `cn-hangzhou-i`, where `cn-hangzhou` indicates the region. You can call the DescribeRegions operation to query available regions.
DedicatedHostGroupId	String	Yes	No	The ID of the dedicated cluster.	N/A
AutoRenew	String	No	No	Specifies whether to enable the auto-renewal feature.	Valid values: • true: enables the auto-renewal feature. • false: disables the auto-renewal feature. This is the default value.
VSwitchId	String	Yes	No	The ID of the vSwitch.	N/A

Property	Type	Required	Editable	Description	Constraint
UsedTime	String	No	No	The subscription duration.	Valid values: • If the Period property is set to Year: 1 to 5. • If the Period property is set to Month: 1 to 9. • If the Period property is set to Week: 1 to 3.
ImageCategory	String	No	No	The image type of the host.	Valid values: • WindowsWithMssqlEntAlwaysonLicense: SQL Server Cluster Edition • WindowsWithMssqlStdLicense: SQL Server Standard Edition • WindowsWithMssqlEntLicense: SQL Server Enterprise Edition • WindowsWithMssqlWebLicense: SQL Server Web Edition • AliLinux: other image types
Period	String	No	No	The subscription period of the host.	Valid values: • Year • Month • Week
PaymentType	String	Yes	No	The billing method of the host.	Set the value to PrePaid, which indicates the subscription billing method.
HostName	String	No	Yes	The name of the host.	The name must be 1 to 64 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.
Tags	List	No	Yes	The tags.	For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "TagKey": String,
    "TagValue": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
TagKey	String	No	No	The key of the tag.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.
TagValue	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.

Response parameters

Fn::GetAtt

- DiskAllocationRatio: the disk usage. Unit: percentage.
- DedicatedHostId: the ID of the host in the dedicated cluster.
- MemAllocationRatio: the memory usage. Unit: percentage.

- ZoneId: the ID of the zone.
- DedicatedHostGroupId: the ID of the dedicated cluster.
- AutoRenew: indicates whether the auto-renewal feature is enabled.
- VSwitchId: the ID of the vSwitch.
- ImageCategory: the image type of the host.
- HostStorage: the total storage capacity of the host. Unit: GB.
- StorageUsed: the storage usage. Unit: GB.
- OpenPermission: indicates whether the feature that allows you to have OS permissions on the host is enabled.
- HostType: the storage type of the host.
- HostClass: the instance type of the host.
- HostCpu: the CPU of the host.
- VpcId: the ID of the virtual private cloud (VPC).
- EcsClassCode: the Elastic Compute Service (ECS) instance type of the host.
- CpuAllocationRatio: the CPU utilization.
- HostMem: the total memory capacity of the host.
- PaymentType: the billing method of the host.
- MemoryUsed: the memory usage . Unit: GB.
- IpAddress: the IP address of the host.
- CpuUsed: the CPU usage. Unit: cores.
- HostName: the name of the host.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "HostClass": {
      "Type": "String",
      "Description": "Host Class",
      "Default": "rds.i2g.2xlarge"
    },
    "OsPassword": {
      "Type": "String",
      "Default": "Password123"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "Zone ID",
      "Default": "cn-hangzhou-i"
    },
    "DedicatedHostGroupId": {
      "Type": "String",
      "Description": "Dedicated Host Group ID",
      "Default": "dhg-23h5e2axmuf4****"
    },
    "VSwitchId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "ZoneId": "${ZoneId}"
      }
    },
    "PaymentType": {
      "Type": "String",
      "Description": "Payment Type",
      "Default": "PrePaid"
    }
  },
  "Resources": {
    "CDDCDedicatedHost": {
      "Type": "ALIYUN::CDDC::DedicatedHost",
      "Properties": {
        "HostClass": {
          "Ref": "HostClass"
        },
        "OsPassword": {
```

```
          "Ref": "OsPassword"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "DedicatedHostGroupId": {
          "Ref": "DedicatedHostGroupId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "PaymentType": {
          "Ref": "PaymentType"
        }
      }
    }
  },
  "Outputs": {
    "DiskAllocationRatio": {
      "Description": "Disk Allocation Ratio",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "DiskAllocationRatio"
        ]
      }
    },
    "DedicatedHostId": {
      "Description": "The first ID of the resource",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "DedicatedHostId"
        ]
      }
    },
    "MemAllocationRatio": {
      "Description": "Memory Allocation Ratio",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "MemAllocationRatio"
        ]
      }
    },
    "ZoneId": {
      "Description": "Zone ID",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "ZoneId"
        ]
      }
    },
    "DedicatedHostGroupId": {
      "Description": "Dedicated Host Group ID",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "DedicatedHostGroupId"
        ]
      }
    },
    "AutoRenew": {
      "Description": "Whether Auto Renew",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "AutoRenew"
        ]
      }
    },
    "VSwitchId": {
      "Description": "VSwitch ID",
```

```
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "VSwitchId"
        ]
      }
    },
    "ImageCategory": {
      "Description": "Host Image Category",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "ImageCategory"
        ]
      }
    },
    "HostStorage": {
      "Description": "Host Storage",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "HostStorage"
        ]
      }
    },
    "StorageUsed": {
      "Description": "Storage Used",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "StorageUsed"
        ]
      }
    },
    "OpenPermission": {
      "Description": "Whether Open OS Permission",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "OpenPermission"
        ]
      }
    },
    "HostType": {
      "Description": "Host Storage Type",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "HostType"
        ]
      }
    },
    "HostClass": {
      "Description": "Host Class",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "HostClass"
        ]
      }
    },
    "HostCpu": {
      "Description": "Host CPU",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost",
          "HostCpu"
        ]
      }
    },
    "VpcId": {
      "Description": "VPC ID",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHost"
```

```
        "CDDCDedicatedHost",
        "VpcId"
      ]
    }
  },
  "EcsClassCode": {
    "Description": "ECS Class Code",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "EcsClassCode"
      ]
    }
  },
  "CpuAllocationRatio": {
    "Description": "CPU Allocation Ratio",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "CpuAllocationRatio"
      ]
    }
  },
  "HostMem": {
    "Description": "Host Memory",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "HostMem"
      ]
    }
  },
  "PaymentType": {
    "Description": "Payment Type",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "PaymentType"
      ]
    }
  },
  "MemoryUsed": {
    "Description": "Host Memory Used",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "MemoryUsed"
      ]
    }
  },
  "IpAddress": {
    "Description": "Host IP Address",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "IpAddress"
      ]
    }
  },
  "CpuUsed": {
    "Description": "CPU Used",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "CpuUsed"
      ]
    }
  },
  "HostName": {
    "Description": "Host Name",
    "Value": {
      "Fn::GetAtt": [
        "CDDCDedicatedHost",
        "HostName"
      ]
```

```
        }
      }
    }
  }
```

12.2. ALIYUN::CDDC::DedicatedHostGroup

ALIYUN::CDDC::DedicatedHostGroup is used to create a dedicated cluster.

For more information about dedicated clusters, see What is ApsaraDB MyBase?

Syntax

```
{
  "Type": "ALIYUN::CDDC::DedicatedHostGroup",
  "Properties": {
    "DiskAllocationRatio": Integer,
    "AllocationPolicy": String,
    "VpcId": String,
    "MemAllocationRatio": Integer,
    "HostReplacePolicy": String,
    "CpuAllocationRatio": Integer,
    "Engine": String,
    "DedicatedHostGroupDesc": String,
    "OpenPermission": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DiskAllocationRatio	Integer	No	Yes	The storage overcommit ratio of the dedicated cluster.	Valid values: 100 to 300. Unit: percentage. Default value: 200. The default value indicates that the system can allocate twice the provided storage resources. This maximizes resource utilization.
AllocationPolicy	String	No	Yes	The policy that is used to allocate resources in the dedicated cluster.	Valid values: • Evenly: The system preferentially creates instances on the hosts that have the smallest loads. This way, the loads on the hosts in the dedicated cluster can be balanced. This maximizes system stability. This is the default value. • Intensively: The system preferentially creates instances on the hosts that are created earlier than other hosts and have consumed more resources than other hosts in the dedicated cluster. This maximizes resource utilization.
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC) in which the dedicated cluster resides.	N/A
MemAllocationRatio	Integer	No	Yes	The maximum memory usage of each host in the dedicated cluster.	Valid values: 0 to 100. Unit: percentage. Default value: 100.

Property	Type	Required	Editable	Description	Constraint
HostReplacePolicy	String	No	Yes	The policy that is used to handle host failures.	Valid values: • Auto: Faulty hosts are automatically replaced. This is the default value. • Manual: Faulty hosts are manually replaced. **Note** You can select a policy based on your business requirements only if the dedicated cluster runs the MySQL database engine. For dedicated clusters that run other database engines, set the value to Auto.
CpuAllocationRatio	Integer	No	Yes	The CPU overcommit ratio of the dedicated cluster.	Valid values: 100 to 300. Unit: percentage. Default value: 200. The default value indicates that the system can allocate twice the provided CPU resources. This maximizes resource utilization.
Engine	String	Yes	No	The type of the database engine.	Valid values: • MySQL • SQLServer • PostgreSQL • Redis
DedicatedHostGroupDesc	String	No	Yes	The name of the dedicated cluster.	The name must be 1 to 64 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.
OpenPermission	String	No	Yes	Specifies whether to enable the feature that allows you to have OS permissions on the hosts in the dedicated cluster.	Valid values: • 0: disables the feature. • 1: enables the feature. This is the default value.

Response parameters

Fn::GetAtt

- DeployType: the instance deployment mode.
- DiskAllocationRatio: the storage overcommit ratio of the host.
- DiskUsedAmount: the size of disk usage.
- InstanceNumber: the number of instances on the host.
- AllocationPolicy: the policy that is used to allocate resources on the host.
- HostReplacePolicy: the policy that is used to handle host failures.
- DedicatedHostGroupId: the ID of the dedicated cluster.
- BastionInstanceId: the ID of the primary instance on the host.
- MemAllocatedAmount: the size of the allocated memory.
- OpenPermission: indicates whether the feature that allows you to have OS permissions on the host is enabled.
- MemAllocateRation: the percentage of the allocated memory.
- DiskAllocatedAmount: the size of the allocated disk space.
- Engine: the database engine type of the host.
- MemUtility: the memory usage.
- MemAllocationRatio: the memory overcommit ratio of the host.
- CpuAllocateRation: the percentage of requested CPU cores.
- Text: the description of the host.
- MemUsedAmount: the size of memory usage.

- DedicatedHostGroupDesc: the name of the dedicated cluster to which the host belongs.
- VpcId: the ID of the VPC in which the host resides.
- DiskUtility: the disk usage.
- CpuAllocationRatio: the CPU overcommit ratio of the host.
- DiskAllocateRation: the disk allocation ratio.
- HostNumber: the number of hosts.
- CpuAllocatedAmount: the number of requested CPU cores.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcId": {
      "Type": "String",
      "Description": "VPC ID",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId"
    },
    "Engine": {
      "Type": "String",
      "Description": "Database Engine Type",
      "Default": "MySQL"
    }
  },
  "Resources": {
    "CDDCDedicatedHostGroup": {
      "Type": "ALIYUN::CDDC::DedicatedHostGroup",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        },
        "Engine": {
          "Ref": "Engine"
        }
      }
    }
  },
  "Outputs": {
    "DeployType": {
      "Description": "DeployType",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DeployType"
        ]
      }
    },
    "DiskAllocationRatio": {
      "Description": "Disk Allocation Ratio",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DiskAllocationRatio"
        ]
      }
    },
    "DiskUsedAmount": {
      "Description": "DiskUsedAmount",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DiskUsedAmount"
        ]
      }
    },
    "InstanceNumber": {
      "Description": "Total Instance Number",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "InstanceNumber"
```

```
          "InstanceNumber"
        ]
      }
    },
    "AllocationPolicy": {
      "Description": "Allocation Policy",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "AllocationPolicy"
        ]
      }
    },
    "HostReplacePolicy": {
      "Description": "Host Replace Policy",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "HostReplacePolicy"
        ]
      }
    },
    "DedicatedHostGroupId": {
      "Description": "Dedicated Host Group ID",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DedicatedHostGroupId"
        ]
      }
    },
    "BastionInstanceId": {
      "Description": "BastionInstanceId",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "BastionInstanceId"
        ]
      }
    },
    "MemAllocatedAmount": {
      "Description": "MemAllocatedAmount",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "MemAllocatedAmount"
        ]
      }
    },
    "OpenPermission": {
      "Description": "Whether Open OS Permission",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "OpenPermission"
        ]
      }
    },
    "MemAllocateRation": {
      "Description": "MemAllocateRation",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "MemAllocateRation"
        ]
      }
    },
    "DiskAllocatedAmount": {
      "Description": "DiskAllocatedAmount",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DiskAllocatedAmount"
        ]
      }
```

```
    },
    "Engine": {
      "Description": "Database Engine Type",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "Engine"
        ]
      }
    },
    "MemUtility": {
      "Description": "MemUtility",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "MemUtility"
        ]
      }
    },
    "MemAllocationRatio": {
      "Description": "Memory Allocation Ratio",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "MemAllocationRatio"
        ]
      }
    },
    "CpuAllocateRation": {
      "Description": "CpuAllocateRation",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "CpuAllocateRation"
        ]
      }
    },
    "Text": {
      "Description": "Text",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "Text"
        ]
      }
    },
    "MemUsedAmount": {
      "Description": "MemUsedAmount",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "MemUsedAmount"
        ]
      }
    },
    "DedicatedHostGroupDesc": {
      "Description": "Dedicated Host Group Description",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DedicatedHostGroupDesc"
        ]
      }
    },
    "VpcId": {
      "Description": "VPC ID",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "VpcId"
        ]
      }
    },
    "DiskUtility": {
```

```
      "Description": "DiskUtility",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DiskUtility"
        ]
      }
    },
    "CpuAllocationRatio": {
      "Description": "Cpu Allocation Ratio",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "CpuAllocationRatio"
        ]
      }
    },
    "DiskAllocateRation": {
      "Description": "DiskAllocateRation",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "DiskAllocateRation"
        ]
      }
    },
    "HostNumber": {
      "Description": "Total Host Number",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "HostNumber"
        ]
      }
    },
    "CpuAllocatedAmount": {
      "Description": "CpuAllocatedAmount",
      "Value": {
        "Fn::GetAtt": [
          "CDDCDedicatedHostGroup",
          "CpuAllocatedAmount"
        ]
      }
    }
  }
}
```

13.CDN

13.1. ALIYUN::CDN::Domain

ALIYUN::CDN::Domain is used to add a domain name for CDN.

> **Note**
>
> - Before you add a domain name for CDN, you must activate the Alibaba Cloud Content Delivery Network (CDN) service. For more information, see Activate Alibaba Cloud CDN.
> - Your accelerated domain name must be ICP filed.
> - You can add only a single domain name to Alibaba Cloud CDN in each call. You can add a maximum of 50 domain names for CDN within each Alibaba Cloud account.
> - If the content of the origin server is not stored on Alibaba Cloud, the content must be reviewed. The review is completed by the end of the next business day after you submit the application.
> - The maximum number of times that each user can call this operation per second is 30.

Syntax

```
{
  "Type": "ALIYUN::CDN::Domain",
  "Properties": {
    "CdnType": String,
    "Sources": String,
    "CheckUrl": String,
    "DomainName": String,
    "ResourceGroupId": String,
    "Scope": String,
    "TopLevelDomain": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
CdnType	String	Yes	No	The business type of the domain name.	Valid values: • web: images and small files. • download: downloads of large files. • video: on-demand video and audio streaming.
Sources	String	No	Yes	The information about the origin server.	Example: `[{"content":"1.1.1.1","type":"ip addr","priority":"20","port":80,"weight":"15"}]` .
CheckUrl	String	No	No	The URL that is used for health checks.	Example: `example.com/test.html` .
DomainName	String	Yes	No	The domain names that you want to add to Alibaba Cloud CDN.	Wildcard domain names are supported. A wildcard domain name must start with a period (.). Example: `.example.com` .
ResourceGroupId	String	No	Yes	The ID of the resource group.	None

Property	Type	Required	Editable	Description	Constraint
Scope	String	No	No	The accelerated region.	Default value: domestic. Valid values: • domestic: regions inside mainland China. • overseas: regions outside mainland China. • global: all regions both inside and outside mainland China.
TopLevelDomain	String	No	Yes	The top-level domain name.	Example: `www.yourTopLevelDomain`.
Tags	List	No	Yes	The tags of the domain name.	A maximum of 20 tags can be specified. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- DomainName: the domain name to be accelerated by CDN.
- Cname: the alias of the domain name for CDN. A Canonical Name (CNAME) record is provided to the Domain Name System (DNS) to map the alias to the canonical name.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "CheckUrl": {
      "Type": "String",
      "Description": "The validation of the origin."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group. If this is left blank, the system automatically fills in the ID of the defa
ult resource group."
    },
    "Scope": {
      "Type": "String",
      "Description": "Valid values: domestic, overseas, and global. Default value: domestic. The setting is supported for users
outside mainland China, users in mainland China of level 3 or above."
    },
    "DomainName": {
      "Type": "String",
```

```
      "Description": "The CDN domain name. Wildcard domain names that start with periods (.) are supported. For example, .examp
le.com."
    },
    "CdnType": {
      "Type": "String",
      "Description": "The business type. Valid values: web, download, video, livestream, and httpsdelivery. web: acceleration o
f images and small files download. download: acceleration of large file downloads. video: live streaming acceleration. httpsdel
ivery: SSL acceleration for HTTPS.",
      "AllowedValues": [
        "video",
        "download",
        "web",
        "liveStream"
      ]
    },
    "TopLevelDomain": {
      "Type": "String",
      "Description": "The top-level domain, which can only be configured by users on the whitelist."
    },
    "Sources": {
      "Type": "String",
      "Description": "The list of origin URLs."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "Domain": {
      "Type": "ALIYUN::CDN::Domain",
      "Properties": {
        "CheckUrl": {
          "Ref": "CheckUrl"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "Scope": {
          "Ref": "Scope"
        },
        "DomainName": {
          "Ref": "DomainName"
        },
        "CdnType": {
          "Ref": "CdnType"
        },
        "TopLevelDomain": {
          "Ref": "TopLevelDomain"
        },
        "Sources": {
          "Ref": "Sources"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "DomainName": {
      "Description": "The CDN domain name. Wildcard domain names that start with periods (.) are supported. For example, .examp
le.com.",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "DomainName"
        ]
      }
    },
    "Cname": {
      "Description": "The CNAME generated for the CDN domain.You must add a CNAME record with your DNS provider to map the CDN
```

```
domain name to the CNAME.",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "Cname"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CdnType:
    AllowedValues:
    - video
    - download
    - web
    - liveStream
    Description: 'The business type. Valid values: web, download, video, livestream,
      and httpsdelivery. web: acceleration of images and small files download. download:
      acceleration of large file downloads. video: live streaming acceleration. httpsdelivery:
      SSL acceleration for HTTPS.'
    Type: String
  CheckUrl:
    Description: The validation of the origin.
    Type: String
  DomainName:
    Description: The CDN domain name. Wildcard domain names that start with periods
      (.) are supported. For example, .example.com.
    Type: String
  ResourceGroupId:
    Description: The ID of the resource group. If this is left blank, the system automatically
      fills in the ID of the default resource group.
    Type: String
  Scope:
    Description: 'Valid values: domestic, overseas, and global. Default value: domestic.
      The setting is supported for users outside mainland China, users in mainland
      China of level 3 or above.'
    Type: String
  Sources:
    Description: The list of origin URLs.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  TopLevelDomain:
    Description: The top-level domain, which can only be configured by users on the
      whitelist.
    Type: String
Resources:
  Domain:
    Properties:
      CdnType:
        Ref: CdnType
      CheckUrl:
        Ref: CheckUrl
      DomainName:
        Ref: DomainName
      ResourceGroupId:
        Ref: ResourceGroupId
      Scope:
        Ref: Scope
      Sources:
        Ref: Sources
      Tags:
        Ref: Tags
      TopLevelDomain:
        Ref: TopLevelDomain
    Type: ALIYUN::CDN::Domain
```

```
Outputs:
  Cname:
    Description: The CNAME generated for the CDN domain.You must add a CNAME record
      with your DNS provider to map the CDN domain name to the CNAME.
    Value:
      Fn::GetAtt:
      - Domain
      - Cname
  DomainName:
    Description: The CDN domain name. Wildcard domain names that start with periods
      (.) are supported. For example, .example.com.
    Value:
      Fn::GetAtt:
      - Domain
      - DomainName
```

For more examples, visit Domain.json and Domain.yml. In the examples, the ALIYUN::CDN::Domain and ALIYUN::CDN::DomainConfig resources are involved.

13.2. ALIYUN::CDN::DomainConfig

ALIYUN::CDN::DomainConfig is used to add multiple domain name settings.

Syntax

```
{
  "Type": "ALIYUN::CDN::DomainConfig",
  "Properties": {
    "Functions": String,
    "DomainNames": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Functions	String	Yes	No	The list of functions.	None
DomainNames	String	Yes	No	The accelerated domain names. Separate multiple domain names with commas (,).	None

Functions syntax

```
[{
  "functionArgs": [{
    "argName": "domain_name",
    "argValue": "example.com"
  }],
  "functionName": "set_req_host_header"
}]
```

You can set certain functions, such as filetype_based_ttl_set, in multiple configuration records. To update one of the configuration records, use the configId parameter to identify that record.

```
[{
  "functionArgs": [{
    "argName": "file_type",
    "argValue": "jpg"
  }, {
    "argName": "ttl",
    "argValue": "18"
  }, {
    "argName": "weight",
    "argValue": "30"
  }],
  "functionName": "filetype_based_ttl_set",
  "configId": 5068****
}]
```

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DomainConfig": {
      "Type": "ALIYUN::CDN::DomainConfig",
      "Properties": {
        "Functions": {
          "Ref": "Functions"
        },
        "DomainNames": {
          "Ref": "DomainNames"
        }
      }
    }
  },
  "Parameters": {
    "Functions": {
      "Type": "String",
      "Description": "function list"
    },
    "DomainNames": {
      "Type": "String",
      "Description": "Your accelerated domain name, separated by commas in English."
    }
  },
  "Outputs": {}
}
```

14.CEN

14.1. ALIYUN::CEN::CenInstance

ALIYUN::CEN::CenInstance is used to create a Cloud Enterprise Network (CEN) instance.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenInstance",
  "Properties": {
    "Description": String,
    "Name": String,
    "ProtectionLevel": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the CEN instance.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
Name	String	No	Yes	The name of the CEN instance.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
ProtectionLevel	String	No	No	The level of CIDR block overlapping.	Set the value to REDUCED. This value indicates that the CIDR blocks can overlap with each other but must not be the same.
Tags	List	No	Yes	The tags of the CEN instance.	You can add up to 20 tags to each instance. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.

Response parameters

Fn::GetAtt

CenId: the ID of the CEN instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ProtectionLevel": {
      "Type": "String",
      "Description": "The level of CIDR block overlapping. \nSet the value to REDUCED. REDUCED indicates that the \nCIDR blocks can overlap with each other but must not be the same."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the instance.\nThe name can be 2-256 characters in length. It can start with an uppercase letter, lowercase letter, or Chinese character. It can contain numbers, underscores (_), and hyphens (-), but cannot start with http:// or https://."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properties Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the instance.\nThe name can be 2-128 characters in length. It can start with an uppercase letter, lowercase letter, or Chinese character. It can contain numbers, underscores (_), and hyphens (-), but cannot start with http:// or https://."
    }
  },
  "Resources": {
    "CenInstance": {
      "Type": "ALIYUN::CEN::CenInstance",
      "Properties": {
        "ProtectionLevel": {
          "Ref": "ProtectionLevel"
        },
        "Description": {
          "Ref": "Description"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "CenId": {
      "Description": "The ID of the request.",
      "Value": {
        "Fn::GetAtt": [
          "CenInstance",
          "CenId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: 'The description of the instance.
      The name can be 2-256 characters in length. It can start with an uppercase letter,
      lowercase letter, or Chinese character. It can contain numbers, underscores
      (_), and hyphens (-), but cannot start with http:// or https://.'
    Type: String
  Name:
    Description: 'The name of the instance.
      The name can be 2-128 characters in length. It can start with an uppercase letter,
      lowercase letter, or Chinese character. It can contain numbers, underscores
      (_), and hyphens (-), but cannot start with http:// or https://.'
    Type: String
  ProtectionLevel:
    Description: "The level of CIDR block overlapping. \nSet the value to REDUCED.\
      \ REDUCED indicates that the \nCIDR blocks can overlap with each other but must\
      \ not be the same."
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  CenInstance:
    Properties:
      Description:
        Ref: Description
      Name:
        Ref: Name
      ProtectionLevel:
        Ref: ProtectionLevel
      Tags:
        Ref: Tags
    Type: ALIYUN::CEN::CenInstance
Outputs:
  CenId:
    Description: The ID of the request.
    Value:
      Fn::GetAtt:
      - CenInstance
      - CenId
```

To view more examples, visit Cen.json and Cen.yml. In the examples, the ALIYUN::CEN::CenInstance, ALIYUN::CEN::CenInstanceAttachment, ALIYUN::CEN::CenBandwidthPackage, ALIYUN::CEN::CenBandwidthLimit, ALIYUN::CEN::RouteEntry, ALIYUN::SAG::CloudConnectNetwork, ALIYUN::SAG::GrantCcnToCen, and ALIYUN::VPC::GrantInstanceToCen resource types are involved.

14.2. ALIYUN::CEN::CenInstanceAttachment

ALIYUN::CEN::CenInstanceAttachment is used to attach network instances to a CEN instance.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenInstanceAttachment",
  "Properties": {
    "ChildInstanceRegionId": String,
    "ChildInstanceType": String,
    "ChildInstanceId": String,
    "CenId": String,
    "ChildInstanceOwnerId": Integer
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity

Name	Type	Required	Editable	Description	Validity
ChildInstanceRegionId	String	Yes	No	The ID of the region where a network instance resides.	None
ChildInstanceType	String	Yes	No	The type of the network instance to be attached.	Valid values: VPC, VBR, and CCN.
ChildInstanceId	String	Yes	No	The ID of the network instance to be attached.	None
CenId	String	Yes	No	The ID of the CEN instance.	None
ChildInstanceOwnerId	Integer	No	No	The account ID for the network instance.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CenInstanceAttachment": {
      "Type": "ALIYUN::CEN::CenInstanceAttachment",
      "Properties": {
        "ChildInstanceRegionId": {
          "Ref": "ChildInstanceRegionId"
        },
        "ChildInstanceType": {
          "Ref": "ChildInstanceType"
        },
        "ChildInstanceId": {
          "Ref": "ChildInstanceId"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "ChildInstanceOwnerId": {
          "Ref": "ChildInstanceOwnerId"
        }
      }
    }
  },
  "Parameters": {
    "ChildInstanceRegionId": {
      "Type": "String",
      "Description": "The ID of the region where the network is located. The ID of the region where the network is located."
    },
    "ChildInstanceType": {
      "Type": "String",
      "Description": "The type of the network to attach. Support VPC, VBR or CCN.",
      "AllowedValues": [
        "VPC",
        "VBR",
        "CCN"
      ]
    },
    "ChildInstanceId": {
      "Type": "String",
      "Description": "The ID of the network to attach."
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the CEN instance."
    },
    "ChildInstanceOwnerId": {
      "Type": "Number",
      "Description": "The account ID to which the network belongs."
    }
  },
  "Outputs ":{
}
```

14.3. ALIYUN::CEN::CenBandwidthPackage

ALIYUN::CEN::CenBandwidthPackage is used to purchase a bandwidth plan before you use Cloud Enterprise Network (CEN) to connect network instances in different regions.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenBandwidthPackage",
  "Properties": {
    "Description": String,
    "BandwidthPackageChargeType": String,
    "GeographicRegionBId": String,
    "GeographicRegionAId": String,
    "PricingCycle": String,
    "AutoRenew": "Boolean",
    "Bandwidth": Integer,
    "Period": Integer,
    "AutoPay": "Boolean",
    "AutoRenewDuration": Integer,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
GeographicRegionAId	String	Yes	No	The ID of the geographic region where one network instance resides.	Valid values: • China • North-America • Asia-Pacific • Europe • Australia
Description	String	No	Yes	The description of the bandwidth plan.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`. The description can contain letters, digits, hyphens (-), periods (.), and underscores (_).
AutoPay	Boolean	No	No	Specifies whether to enable automatic payment. Default value: false.	Valid values: • true • false
Period	Integer	No	No	The subscription period of the bandwidth plan.	Default value: 1.
GeographicRegionBId	String	Yes	No	The ID of geographic region where another network instance resides.	Valid values: • China • North-America • Asia-Pacific • Europe • Australiat
Bandwidth	Integer	Yes	Yes	The peak bandwidth provided by the bandwidth plan.	Unit: Mbit/s. Minimum value: 2.
PricingCycle	String	No	No	The billing cycle of the bandwidth plan.	Default value: Month. Valid values: • Month • Year

Property	Type	Required	Editable	Description	Constraint
BandwidthPackageChargeType	String	No	No	The billing method of the bandwidth plan.	Valid values: • POSTPAY • PREPAY
Name	String	No	Yes	The name of the bandwidth plan.	The name must be 2 to 128 characters in length. It must start with a letter and cannot start with `http://` or `https://`. The name can contain letters, digits, periods (.), underscores (_), and hyphens (-).
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal.	Default value: false. Valid values: • true • false
AutoRenewDuration	Integer	No	No	The auto-renewal period.	This parameter takes effect when the AutoRenew parameter is set to true. Valid values: • 1 • 2 • 3 Unit: months.

Response parameters

Fn::GetAtt

CenBandwidthPackageId: the ID of the purchased bandwidth plan.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the bandwidth package.\nThe description can contain [2,256] characters, numbers, under
scores, and hyphens, and the name must start with English letters, but cannot start with http:// or https://."
    },
    "BandwidthPackageChargeType": {
      "Type": "String",
      "Description": "The billing method. Valid value: PREPAY, POSTPAY (Default)",
      "AllowedValues": [
        "PREPAY",
        "POSTPAY"
      ]
    },
    "GeographicRegionBId": {
      "Type": "String",
      "Description": "The other area B to connect.\nValid value: China | North-America | Asia-Pacific | Europe | Australia",
      "AllowedValues": [
        "China",
        "North-America",
        "Asia-Pacific",
        "Europe",
        "Australia"
```

```
      ]
    },
    "GeographicRegionAId": {
      "Type": "String",
      "Description": "The other area A to connect.\nValid value: China | North-America | Asia-Pacific | Europe | Australia",
      "AllowedValues": [
        "China",
        "North-America",
        "Asia-Pacific",
        "Europe",
        "Australia"
      ]
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "The pricing cycle.",
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Indicates whether automatic renewal is enabled. Valid values:true: Automatic renewal is enabled.false: Au
tomatic renewal is not enabled. You must renew the instance manually.Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "The bandwidth in Mbps of the bandwidth package. The bandwidth cannot be less than 2 Mbps.",
      "MinValue": 2
    },
    "Period": {
      "Type": "Number",
      "Description": "The purchase period. The default value is 1.",
      "Default": 1
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Whether to automatically pay the bill. Valid value:\ntrue\nfalse (Default)",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "AutoRenewDuration": {
      "Type": "Number",
      "Description": "Duration of each automatic renewals. It takes effect when AutoRenew is true.",
      "AllowedValues": [
        1,
        2,
        3,
        6
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the bandwidth package.\nThe name can contain 2-128 characters including a-z, A-Z, 0-9, period
s, underlines, and hyphens. It must start with English letters, but cannot start with http:// or https://."
    }
  },
  "Resources": {
    "CenBandwidthPackage": {
      "Type": "ALIYUN::CEN::CenBandwidthPackage",
      "Properties": {
```

```
        "Description": {
          "Ref": "Description"
        },
        "BandwidthPackageChargeType": {
          "Ref": "BandwidthPackageChargeType"
        },
        "GeographicRegionBId": {
          "Ref": "GeographicRegionBId"
        },
        "GeographicRegionAId": {
          "Ref": "GeographicRegionAId"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "Period": {
          "Ref": "Period"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "AutoRenewDuration": {
          "Ref": "AutoRenewDuration"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "CenBandwidthPackageId": {
      "Description": "The ID of the bandwidth package.",
      "Value": {
        "Fn::GetAtt": [
          "CenBandwidthPackage",
          "CenBandwidthPackageId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: >-
      The description of the bandwidth package.
      The description can contain [2,256] characters, numbers, underscores, and
      hyphens, and the name must start with English letters, but cannot start
      with http:// or https://.
  BandwidthPackageChargeType:
    Type: String
    Description: 'The billing method. Valid value: PREPAY, POSTPAY (Default)'
    AllowedValues:
      - PREPAY
      - POSTPAY
  GeographicRegionBId:
    Type: String
    Description: |-
      The other area B to connect.
      Valid value: China | North-America | Asia-Pacific | Europe | Australia
    AllowedValues:
      - China
      - North-America
```

```
      - Asia-Pacific
      - Europe
      - Australia
  GeographicRegionAId:
    Type: String
    Description: |-
      The other area A to connect.
      Valid value: China | North-America | Asia-Pacific | Europe | Australia
    AllowedValues:
      - China
      - North-America
      - Asia-Pacific
      - Europe
      - Australia
  PricingCycle:
    Type: String
    Description: The pricing cycle.
    AllowedValues:
      - Month
      - Year
    Default: Month
  AutoRenew:
    Type: Boolean
    Description: >-
      Indicates whether automatic renewal is enabled. Valid values:true:
      Automatic renewal is enabled.false: Automatic renewal is not enabled. You
      must renew the instance manually.Default value: false.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Bandwidth:
    Type: Number
    Description: >-
      The bandwidth in Mbps of the bandwidth package. The bandwidth cannot be
      less than 2 Mbps.
    MinValue: 2
  Period:
    Type: Number
    Description: The purchase period. The default value is 1.
    Default: 1
  AutoPay:
    Type: Boolean
    Description: |-
      Whether to automatically pay the bill. Valid value:
      true
      false (Default)
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
  AutoRenewDuration:
    Type: Number
    Description: >-
      Duration of each automatic renewals. It takes effect when AutoRenew is
      true.
    AllowedValues:
      - 1
      - 2
      - 3
      - 6
  Name:
    Type: String
    Description: >-
      The name of the bandwidth package.
      The name can contain 2-128 characters including a-z, A-Z, 0-9, periods,
      underlines, and hyphens. It must start with English letters, but cannot
      start with http:// or https://.
Resources:
  CenBandwidthPackage:
    Type: 'ALIYUN::CEN::CenBandwidthPackage'
```

```
    Properties:
      Description:
        Ref: Description
      BandwidthPackageChargeType:
        Ref: BandwidthPackageChargeType
      GeographicRegionBId:
        Ref: GeographicRegionBId
      GeographicRegionAId:
        Ref: GeographicRegionAId
      PricingCycle:
        Ref: PricingCycle
      AutoRenew:
        Ref: AutoRenew
      Bandwidth:
        Ref: Bandwidth
      Period:
        Ref: Period
      AutoPay:
        Ref: AutoPay
      AutoRenewDuration:
        Ref: AutoRenewDuration
      Name:
        Ref: Name
Outputs:
  CenBandwidthPackageId:
    Description: The ID of the bandwidth package.
    Value:
      'Fn::GetAtt':
        - CenBandwidthPackage
        - CenBandwidthPackageId
```

14.4. ALIYUN::CEN::CenBandwidthPackageAssociation

ALIYUN::CEN::CenBandwidthPackageAssociation is used to bind a bandwidth package to the specified Cloud Enterprise Network (CEN) instance.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenBandwidthPackageAssociation",
  "Properties": {
    "CenId": String,
    "CenBandwidthPackageId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
CenId	String	Yes	No	The ID of the CEN instance.	None
CenBandwidthPackageId	String	Yes	No	The ID of the bandwidth package.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CenBandwidthPackageAssociation": {
      "Type": "ALIYUN::CEN::CenBandwidthPackageAssociation",
      "Properties": {
        "CenId": {
          "Ref": "CenId"
        },
        "CenBandwidthPackageId": {
          "Ref": "CenBandwidthPackageId"
        }
      }
    }
  },
  "Parameters": {
    "CenId": {
      "Type": "String",
      "Description": "The ID of the CEN instance."
    },
    "CenBandwidthPackageId": {
      "Type": "String",
      "Description": "The ID of the bandwidth package."
    }
  },
  "Outputs": {}
}
```

14.5. ALIYUN::CEN::CenBandwidthLimit

ALIYUN::CEN::CenBandwidthLimit is used to configure the cross-region interconnection bandwidth in a bandwidth plan.

Notice After a resource is deleted, the bandwidth will not be restored to the original value before the resource was created.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenBandwidthLimit",
  "Properties": {
    "OppositeRegionId": String,
    "CenId": String,
    "BandwidthLimit": Integer,
    "LocalRegionId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
OppositeRegionId	String	Yes	No	The ID of the peer region.	None.
CenId	String	Yes	No	The ID of the CEN instance.	None.
BandwidthLimit	Integer	Yes	Yes	The peak interconnection bandwidth between two regions.	Minimum value: 1.
LocalRegionId	String	Yes	No	The ID of the local region.	None.

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CenBandwidthLimit": {
      "Type": "ALIYUN::CEN::CenBandwidthLimit",
      "Properties": {
        "OppositeRegionId": {
          "Ref": "OppositeRegionId"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "BandwidthLimit": {
          "Ref": "BandwidthLimit"
        },
        "LocalRegionId": {
          "Ref": "LocalRegionId"
        }
      }
    }
  },
  "Parameters": {
    "OppositeRegionId": {
      "Type": "String",
      "Description": "The ID of the other interconnected region."
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the CEN instance."
    },
    "BandwidthLimit": {
      "Type": "Number",
      "Description": "The bandwidth configured for the interconnected regions communication. Minimal value: 1",
      "MinValue": 1
    },
    "LocalRegionId": {
      "Type": "String",
      "Description": "The ID of the local region."
    }
  },
  "Outputs": {}
}
```

14.6. ALIYUN::CEN::CenRouteMap

ALIYUN::CEN::CenRouteMap is used to create a routing policy.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenRouteMap",
  "Properties": {
    "Description": String,
    "SourceInstanceIdsReverseMatch": Boolean,
    "TransmitDirection": String,
    "MatchCommunitySet": List,
    "CenRegionId": String,
    "SourceRouteTableIds": List,
    "DestinationInstanceIds": List,
    "DestinationInstanceIdsReverseMatch": Boolean,
    "SourceInstanceIds": List,
    "DestinationRouteTableIds": List,
    "DestinationCidrBlocks": List,
    "OperateCommunitySet": List,
    "DestinationChildInstanceTypes": List,
    "Priority": Integer,
    "SourceChildInstanceTypes": List,
    "AsPathMatchMode": String,
    "CidrMatchMode": String,
    "MapResult": String,
    "RouteTypes": List,
    "Preference": Integer,
    "CommunityOperateMode": String,
    "CenId": String,
    "NextPriority": Integer,
    "PrependAsPath": List,
    "CommunityMatchMode": String,
    "MatchAsns": List,
    "SourceRegionIds": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the routing policy.	None
SourceInstanceIds ReverseMatch	Boolean	No	Yes	Specifies whether the match is successful if the source instance IDs are not in the list that is specified by SourceInstanceIds .	Default value: false. Valid values: • false: The match is successful if the source instance IDs are in the list that is specified by SourceInstanceIds. • true: The match is successful if the source instance IDs are not in the list that is specified by SourceInstanceIds.
TransmitDirection	String	Yes	No	The direction in which the routing policy is applied.	Valid values: • RegionIn: Routes are advertised to Cloud Enterprise Network (CEN) regional gateways. For example, routes are advertised from network instances that are deployed in the current region or from routes that are deployed in other regions to gateways that are deployed in the current region. • RegionOut: Routes are advertised from CEN regional gateways. For example, routes are advertised from gateways that are deployed in the current region to network instances that are deployed in the same region, or to gateways that are deployed in other regions.

Property	Type	Required	Editable	Description	Constraint
MatchCommunitySet	List	No	Yes	The community set that is matched by using a match statement.	Specify each community in the nn:nn format. Valid values of nn: 1 to 65535. A maximum of 32 communities are supported. Each community must comply with the RFC 1997 standard. The RFC 8092 standard that defines Border Gateway Protocol (BGP) large communities is not supported. **Note** If the configurations of the communities are incorrect, routes may not be advertised to your data center.
CenRegionId	String	Yes	No	The region ID of the CEN instance.	None
SourceRouteTableIds	List	No	Yes	The IDs of the source route tables that are matched by using a match statement.	A maximum of 32 route table IDs are supported.
DestinationInstanceIds	List	No	Yes	The destination instance IDs that are matched by using a match statement.	You can enter the IDs of virtual private clouds (VPCs), virtual border routers (VBRs), and smart access gateway (SAG) instances. A maximum of 32 instance IDs are supported. **Note** The destination instance IDs. This property is valid only when the routing policy is used for scenarios in which routes are advertised from gateways in the current region to instances in the current region.
DestinationInstanceIdsReverseMatch	Boolean	No	Yes	Specifies whether the match is successful if the destination instance IDs are not in the list that is specified by DestinationInstanceIds.	Default value: false. Valid values: • false: The match is successful if the destination instance IDs are in the list that is specified by DestinationInstanceIds. • true: The match is successful if the destination instance IDs are not in the list that is specified by DestinationInstanceIds.
SourceInstanceIds	List	No	Yes	The source instance IDs that are matched by using a match statement.	You can enter the IDs of VPCs, VBRs, and SAG instances. A maximum of 32 instance IDs are supported.
DestinationRouteTableIds	List	No	Yes	The IDs of the destination route tables that are matched by using a match statement.	A maximum of 32 route table IDs are supported.
DestinationCidrBlocks	List	No	Yes	The prefixes that are matched by using a match statement.	Specify the prefixes in the CIDR format. Up to 32 CIDR blocks can be specified.

Property	Type	Required	Editable	Description	Constraint
OperateCommunitySet	List	No	Yes	The community set that is managed by using an action statement.	Specify each community in the nn:nn format. Valid values of nn: 1 to 65535. A maximum of 32 communities are supported. Each community must comply with the RFC 1997 standard. The RFC 8092 standard that defines BGP large communities is not supported. **Note** If the configurations of the communities are incorrect, routes may not be advertised to your data center.
DestinationChildInstanceTypes	List	No	Yes	The destination instance types that are matched by using a match statement.	Valid values: • VPC • VBR **Note** This property is valid only when the routing policy is used for scenarios in which routes are advertised from gateways in the current region to instances in the current region.
Priority	Integer	Yes	Yes	The priority of the routing policy.	Valid values: 1 to 100. A lower value indicates a higher priority. **Note** After you specify a priority for a routing policy, you cannot specify the same priority for another routing policy that is used in the same region and direction. The system evaluates routes against the match conditions of routing policies in descending order of priority. A lower value indicates a higher priority. Therefore, set appropriate values to sort the routing policies in the expected order.
SourceChildInstanceTypes	List	No	Yes	The source instance types that are matched by using a match statement.	Valid values: • VPC • VBR
AsPathMatchMode	String	No	Yes	The mode in which the autonomous system (AS) paths are matched by using a match statement.	Valid values: • Include: fuzzy match. The match is successful if the AS path of the route overlaps with the path that is specified in the match condition. • Complete: exact match. The match is successful only if the AS path of the route is the same as the path that is specified in the match condition.

Property	Type	Required	Editable	Description	Constraint
CidrMatchMode	String	No	Yes	The mode in which the prefixes are matched by using a match statement.	Valid values: • Include: fuzzy match. The match is successful if the route prefix that is specified in the match condition contains the prefix of the route. For example, if you set the match condition to 1.1.0.0/16 and fuzzy match is applied, the route whose prefix is 1.1.1.0/24 meets the match condition. • Complete: exact match. The match is successful only if the prefix of the route is the same as the prefix that is specified in the match condition. For example, if you set the match condition to 1.1.0.0/16 and exact match is applied, only the route whose prefix is 1.1.0.0/16 meets the match condition.
MapResult	String	Yes	Yes	The action that is performed on a route if the route matches all match conditions.	Valid values: • Permit: allows the route that is matched. • Deny: rejects the route that is matched.
RouteTypes	List	No	Yes	The types of routes that are matched by using a match statement.	Valid values: • System: system routes that are generated by the system • Custom: custom routes that are created by users • BGP: BGP routes that are advertised to BGP You can enter multiple types.
Preference	Integer	No	Yes	The new priority of the route.	Valid values: 1 to 100. Default value: 50. A lower value indicates a higher priority.
CommunityOperateMode	String	No	Yes	The mode in which communities are managed by using an action statement.	Valid values: • Additive: Communities are added. • Replace: Communities are replaced.
CenId	String	Yes	No	The ID of the CEN instance.	None
NextPriority	Integer	No	Yes	Specify a priority for the routing policy that you want to associate next.	Valid values: 1 to 100. • If the priority is not specified, no routing policy is associated with the current routing policy. • If the priority is set to 1, the next routing policy is associated with the current routing policy. • If the priority is set to a value other than 1, the priority of the routing policy that you want to associate next must be higher than that of the current routing policy. Only when the MapResult parameter is set to Permit, the matched routes can continue to match the associated routing policy.

Property	Type	Required	Editable	Description	Constraint
PrependAsPath	List	No	Yes	The AS paths that are prepended by using an action statement when regional gateways receive or advertise routes.	For routing policies that are used in different directions, the requirements for AS paths that are prepended are different: • When AS paths are prepended in the inbound direction, you must specify the source instance IDs and the source region in the match condition. The source region must be the same as the region for which the routing policy is used. • When AS paths are prepended in the outbound direction, you must specify the destination instance IDs in the match condition.
CommunityMatchMode	String	No	Yes	The mode in which communities are matched by using a match statement.	Valid values: • Include: fuzzy match. The match is successful if the community of the route overlaps with the community that is specified in the match condition. • Complete: exact match. The match is successful only if the community of the route is the same as the community that is specified in the match condition.
MatchAsns	List	No	Yes	The AS paths that are matched by using a match statement.	An AS path is a required attribute, which indicates the AS number that is used to pass a BGP route when the BGP route is advertised. Only the AS-SEQUENCE parameter is supported. The AS-SET, AS-CONFED-SEQUENCE, and AS-CONFED-SET parameters are not supported. In other words, only the AS number list is supported. Sets and sub-lists are not supported.
SourceRegionIds	List	No	Yes	The source region IDs that are matched by using a match statement.	You can specify up to 32 region IDs.

Response parameters

Fn::GetAtt

RouteMapId: the ID of the routing policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the route map."
    },
    "SourceInstanceIdsReverseMatch": {
      "Type": "Boolean",
      "Description": "The IDs of source instances to be advertised do not support match statements. Valid values: \n false (def
ault value): If the source instance ID is in the SourceInstanceIds field, the match is successful. \n true: If the source insta
nce ID is not in the SourceInstanceIds field, the match is successful.",
      "AllowedValues": [
        "True",
        "true",
        "False",
```

```
        "false"
      ]
    },
    "TransmitDirection": {
      "Type": "String",
      "Description": "The direction in which the route map is applied. Valid values: \n RegionIn: Routes are advertised to CEN
gateways. \n For example, routes are advertised from network instances deployed in the current region or other regions to the g
ateways deployed in the current region. \n RegionOut: Routes are advertised from CEN gateways. \n For example, routes are adver
tised from gateways deployed in the current region to network instances or gateways deployed in other regions."
    },
    "MatchCommunitySet": {
      "Type": "Json",
      "Description": "Match statements are used to match the Communities. Enter each Community in the format of nn:nn. Valid va
lues of nn: 1 to 65535. You can enter at most 32 Communities. Each Community must comply with RFC 1997. RFC 8092 is not support
ed. \n Note If the configurations of the Communities are incorrect, routes may not be advertised to the on-premises data center
."
    },
    "CenRegionId": {
      "Type": "String",
      "Description": "The region where the CEN instance is deployed. You can call the DescribeRegions operation to query region
IDs."
    },
    "SourceRouteTableIds": {
      "Type": "Json",
      "Description": "Match statements are used to match source route table IDs of the routes. You can enter at most 32 route t
able IDs."
    },
    "DestinationInstanceIds": {
      "Type": "Json",
      "Description": "Match statements are used to match the destination instance IDs. \n You can enter instance IDs of the fol
lowing types: VPC, VBR, CCN in mainland China, and SAG. You can enter at most 32 instance IDs. \n Note The destination instance
IDs are valid only when the route map is applied to scenarios where routes are advertised from gateways in the current region t
o instances in the current region."
    },
    "DestinationInstanceIdsReverseMatch": {
      "Type": "Boolean",
      "Description": "The IDs of destination instances to be advertised do not support match statements. Valid values: \n false
(default value): If the ID of the destination instance to be advertised is in the DestinationInstanceIds field, the match is su
ccessful. \n true: If the ID of the destination instance to be advertised is not in the DestinationInstanceIds filed, the match
is successful.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "SourceInstanceIds": {
      "Type": "Json",
      "Description": "Match statements are used to match source instance IDs of the routes. \n You can enter instance IDs of th
e following types: virtual private cloud (VPC), virtual border router (VBR), Cloud Connect Network (CCN) in mainland China, Sma
rt Access Gateway (SAG). You can enter at most 32 instance IDs."
    },
    "DestinationRouteTableIds": {
      "Type": "Json",
      "Description": "Match statements are used to match the IDs of the destination route tables. You can enter at most 32 rout
e table IDs. \n Note The destination route table IDs are valid only when the route map is applied to scenarios where routes are
advertised from gateways in the current region to route tables in the current region."
    },
    "DestinationCidrBlocks": {
      "Type": "Json",
      "Description": "Match statements are used to match the routing prefixes. The CIDR format is used. You can enter at most 3
2 CIDR blocks."
    },
    "OperateCommunitySet": {
      "Type": "Json",
      "Description": "Action statements are used to operate the Communities. Valid values: Enter each Community in the format o
f nn:nn. Valid values of nn: 1 to 65535. You can enter at most 32 Communities. Each Community must comply with RFC 1997. RFC 80
92 is not supported. \n Note If the configurations of the Communities are incorrect, routes may not be advertised to the on-pre
mises data center."
    },
    "DestinationChildInstanceTypes": {
      "Type": "Json",
      "Description": "Match statements are used to match the destination instance types. Valid values: \n VPC: VPCs. \n VBR: VB
```

```
Rs. \n CCN: CCN instances in mainland China. \n Note The destination instance types are valid only when the route map is applie
d to scenarios where routes are advertised from gateways in the current region to instances in the current region."
    },
    "Priority": {
      "Type": "Number",
      "Description": "The priority of the route map. Valid values: 1 to 100 . A lower value indicates a higher priority. \n Not
e In the same region, for route maps that are applied in the same direction, the priority is unique. When a route map is implem
ented, the system matches conditions with a route map whose priority number is the smallest. Therefore, make sure that you set
priorities for route maps to meet your requirements."
    },
    "SourceChildInstanceTypes": {
      "Type": "Json",
      "Description": "Match statements are used to match source instance types of the routes. Valid values: \n VPC: VPCs. \n VB
R: VBRs. \n CCN: CCN instances in mainland China."
    },
    "AsPathMatchMode": {
      "Type": "String",
      "Description": "Match statements are used to match the AS paths. Valid values:\n Include: uses fuzzy match. If the AS pat
h in the condition overlaps with the AS path in the route, the match is successful.\n Complete: uses exact match. Only when the
AS path in the condition is the same as the AS path in the route, the match is successful."
    },
    "CidrMatchMode": {
      "Type": "String",
      "Description": "Match statements are used to match the prefixes. Valid values: \n Include: uses fuzzy match. If the routi
ng prefix in the condition contains the routing prefix of the route, the match is successful. \n For example, the 1.1.0.0/16 po
licy can match the 1.1.1.0/24 route. \n Complete: uses exact match. Only when the routing prefix in the condition is the same a
s the routing prefix of the route, the match is successful. \n For example, the 1.1.0.0/16 policy can match the 1.1.0.0/16 rout
e."
    },
    "MapResult": {
      "Type": "String",
      "Description": "The route map behavior after all conditions are matched. Valid values: \n Permit: allows the routes that
are matched. \n Deny: rejects the routes that are matched."
    },
    "RouteTypes": {
      "Type": "Json",
      "Description": "Match statements are used to match the route types. Valid values: \n System: system routes that are gener
ated by the system. \n Custom: custom routes that are created by users. \n BGP: Border Gateway Protocol (BGP) routes that are a
dvertised to BGP. \n You can enter multiple types."
    },
    "Preference": {
      "Type": "Number",
      "Description": "Action statements are used to modify route priorities. Valid values: 1 to 100. Default value: 50. A small
er number indicates a higher priority."
    },
    "CommunityOperateMode": {
      "Type": "String",
      "Description": "Action statements are used to operate the Communities. Valid values: \n Additive: adds. \n Replace: repla
ces."
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the Cloud Enterprise Network (CEN) instance."
    },
    "NextPriority": {
      "Type": "Number",
      "Description": "The priority of the next associated route map. Valid values: 1 to 100. \n If the priority is not set, no
next route map is associated with the current route map. \n If the priority is set to 1, the next route map is associated with
the current route map. \n If the priority is set and the value is not 1, the priority of the associated route map must be highe
r than that of the current route map. \n Only when the MapResult parameter is set to Permit, the matched routes continue to mat
ch the next associated route maps."
    },
    "PrependAsPath": {
      "Type": "Json",
      "Description": "AS paths are attached when regional gateways receive or advertise routes. \n For route maps that are appl
ied in different directions, the requirements for AS paths to be attached are different: \n For the inbound direction: You must
specify the list of source instance IDs and the source region in the condition to be matched. The source region must be the sam
e as the region where the route map is applied. \n For the outbound direction: You must specify the list of destination instanc
e IDs in the condition to be matched."
    },
    "CommunityMatchMode": {
      "Type": "String",
      "Description": "Match statements are used to match the Communities. Valid values: \n Include: uses fuzzy match. If the Co
mmunity in the condition overlaps with the Community of the route, the match is successful. \n Complete: uses exact match. Only
```

```
when the Community in the condition is the same as the Community of the route, the match is successful."
    },
    "MatchAsns": {
      "Type": "Json",
      "Description": "Match statements are used to match AS paths of the routes. An AS path is a mandatory attribute, which des
cribes the AS number through which a BGP route passes when the BGP route is advertised. \n Only the AS-SEQUENCE parameter is su
pported. The AS-SET, AS-CONFED-SEQUENCE, and AS-CONFED-SET parameters are not supported. Specifically, only the AS number list
is supported. Sets and sub-lists are not supported."
    },
    "SourceRegionIds": {
      "Type": "Json",
      "Description": "Match statements are used to match source region IDs of the routes. You can enter at most 32 region IDs."
    }
  },
  "Resources": {
    "CENCenRouteMap": {
      "Type": "ALIYUN::CEN::CenRouteMap",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "SourceInstanceIdsReverseMatch": {
          "Ref": "SourceInstanceIdsReverseMatch"
        },
        "TransmitDirection": {
          "Ref": "TransmitDirection"
        },
        "MatchCommunitySet": {
          "Ref": "MatchCommunitySet"
        },
        "CenRegionId": {
          "Ref": "CenRegionId"
        },
        "SourceRouteTableIds": {
          "Ref": "SourceRouteTableIds"
        },
        "DestinationInstanceIds": {
          "Ref": "DestinationInstanceIds"
        },
        "DestinationInstanceIdsReverseMatch": {
          "Ref": "DestinationInstanceIdsReverseMatch"
        },
        "SourceInstanceIds": {
          "Ref": "SourceInstanceIds"
        },
        "DestinationRouteTableIds": {
          "Ref": "DestinationRouteTableIds"
        },
        "DestinationCidrBlocks": {
          "Ref": "DestinationCidrBlocks"
        },
        "OperateCommunitySet": {
          "Ref": "OperateCommunitySet"
        },
        "DestinationChildInstanceTypes": {
          "Ref": "DestinationChildInstanceTypes"
        },
        "Priority": {
          "Ref": "Priority"
        },
        "SourceChildInstanceTypes": {
          "Ref": "SourceChildInstanceTypes"
        },
        "AsPathMatchMode": {
          "Ref": "AsPathMatchMode"
        },
        "CidrMatchMode": {
          "Ref": "CidrMatchMode"
        },
        "MapResult": {
          "Ref": "MapResult"
        },
        "RouteTypes": {
          "Ref": "RouteTypes"
```

```
        },
        "Preference": {
          "Ref": "Preference"
        },
        "CommunityOperateMode": {
          "Ref": "CommunityOperateMode"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "NextPriority": {
          "Ref": "NextPriority"
        },
        "PrependAsPath": {
          "Ref": "PrependAsPath"
        },
        "CommunityMatchMode": {
          "Ref": "CommunityMatchMode"
        },
        "MatchAsns": {
          "Ref": "MatchAsns"
        },
        "SourceRegionIds": {
          "Ref": "SourceRegionIds"
        }
      }
    }
  },
  "Outputs": {
    "RouteMapId": {
      "Description": "The ID of the route map.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenRouteMap",
          "RouteMapId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AsPathMatchMode:
    Description: "Match statements are used to match the AS paths. Valid values:\n\
      \ Include: uses fuzzy match. If the AS path in the condition overlaps with the\
      \ AS path in the route, the match is successful.\n Complete: uses exact match.\
      \ Only when the AS path in the condition is the same as the AS path in the route,\
      \ the match is successful."
    Type: String
  CenId:
    Description: The ID of the Cloud Enterprise Network (CEN) instance.
    Type: String
  CenRegionId:
    Description: The region where the CEN instance is deployed. You can call the DescribeRegions
      operation to query region IDs.
    Type: String
  CidrMatchMode:
    Description: "Match statements are used to match the prefixes. Valid values: \n\
      \ Include: uses fuzzy match. If the routing prefix in the condition contains\
      \ the routing prefix of the route, the match is successful. \n For example,\
      \ the 1.1.0.0/16 policy can match the 1.1.1.0/24 route. \n Complete: uses exact\
      \ match. Only when the routing prefix in the condition is the same as the routing\
      \ prefix of the route, the match is successful. \n For example, the 1.1.0.0/16\
      \ policy can match the 1.1.0.0/16 route."
    Type: String
  CommunityMatchMode:
    Description: "Match statements are used to match the Communities. Valid values:\
      \ \n Include: uses fuzzy match. If the Community in the condition overlaps with\
      \ the Community of the route, the match is successful. \n Complete: uses exact\
      \ match. Only when the Community in the condition is the same as the Community\
      \ of the route, the match is successful."
```

```
    Type: String
  CommunityOperateMode:
    Description: "Action statements are used to operate the Communities. Valid values:\
      \ \n Additive: adds. \n Replace: replaces."
    Type: String
  Description:
    Description: The description of the route map.
    Type: String
  DestinationChildInstanceTypes:
    Description: "Match statements are used to match the destination instance types.\
      \ Valid values: \n VPC: VPCs. \n VBR: VBRs. \n CCN: CCN instances in mainland\
      \ China. \n Note The destination instance types are valid only when the route\
      \ map is applied to scenarios where routes are advertised from gateways in the\
      \ current region to instances in the current region."
    Type: Json
  DestinationCidrBlocks:
    Description: Match statements are used to match the routing prefixes. The CIDR
      format is used. You can enter at most 32 CIDR blocks.
    Type: Json
  DestinationInstanceIds:
    Description: "Match statements are used to match the destination instance IDs.\
      \ \n You can enter instance IDs of the following types: VPC, VBR, CCN in mainland\
      \ China, and SAG. You can enter at most 32 instance IDs. \n Note The destination\
      \ instance IDs are valid only when the route map is applied to scenarios where\
      \ routes are advertised from gateways in the current region to instances in\
      \ the current region."
    Type: Json
  DestinationInstanceIdsReverseMatch:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "The IDs of destination instances to be advertised do not support\
      \ match statements. Valid values: \n false(default value): If the ID of the\
      \ destination instance to be advertised is in the DestinationInstanceIds field,\
      \ the match is successful. \n true: If the ID of the destination instance to\
      \ be advertised is not in the DestinationInstanceIds filed, the match is successful."
    Type: Boolean
  DestinationRouteTableIds:
    Description: "Match statements are used to match the IDs of the destination route\
      \ tables. You can enter at most 32 route table IDs. \n Note The destination\
      \ route table IDs are valid only when the route map is applied to scenarios\
      \ where routes are advertised from gateways in the current region to route tables\
      \ in the current region."
    Type: Json
  MapResult:
    Description: "The route map behavior after all conditions are matched. Valid values:\
      \ \n Permit: allows the routes that are matched. \n Deny: rejects the routes\
      \ that are matched."
    Type: String
  MatchAsns:
    Description: "Match statements are used to match AS paths of the routes. An AS\
      \ path is a mandatory attribute, which describes the AS number through which\
      \ a BGP route passes when the BGP route is advertised. \n Only the AS-SEQUENCE\
      \ parameter is supported. The AS-SET, AS-CONFED-SEQUENCE, and AS-CONFED-SET\
      \ parameters are not supported. Specifically, only the AS number list is supported.\
      \ Sets and sub-lists are not supported."
    Type: Json
  MatchCommunitySet:
    Description: "Match statements are used to match the Communities. Enter each Community\
      \ in the format of nn:nn. Valid values of nn: 1 to 65535. You can enter at most\
      \ 32 Communities. Each Community must comply with RFC 1997. RFC 8092 is not\
      \ supported. \n Note If the configurations of the Communities are incorrect,\
      \ routes may not be advertised to the on-premises data center."
    Type: Json
  NextPriority:
    Description: "The priority of the next associated route map. Valid values: 1 to\
      \ 100. \n If the priority is not set, no next route map is associated with the\
      \ current route map. \n If the priority is set to 1, the next route map is associated\
      \ with the current route map. \n If the priority is set and the value is not\
      \ 1, the priority of the associated route map must be higher than that of the\
      \ current route map. \n Only when the MapResult parameter is set to Permit,\
      \ the matched routes continue to match the next associated route maps."
```

```
    Type: Number
  OperateCommunitySet:
    Description: "Action statements are used to operate the Communities. Valid values:\
      \ Enter each Community in the format of nn:nn. Valid values of nn: 1 to 65535.\
      \ You can enter at most 32 Communities. Each Community must comply with RFC\
      \ 1997. RFC 8092 is not supported. \n Note If the configurations of the Communities\
      \ are incorrect, routes may not be advertised to the on-premises data center."
    Type: Json
  Preference:
    Description: 'Action statements are used to modify route priorities. Valid values:
      1 to 100. Default value: 50. A smaller number indicates a higher priority.'
    Type: Number
  PrependAsPath:
    Description: "AS paths are attached when regional gateways receive or advertise\
      \ routes. \n For route maps that are applied in different directions, the requirements\
      \ for AS paths to be attached are different: \n For the inbound direction: You\
      \ must specify the list of source instance IDs and the source region in the\
      \ condition to be matched. The source region must be the same as the region\
      \ where the route map is applied. \n For the outbound direction: You must specify\
      \ the list of destination instance IDs in the condition to be matched."
    Type: Json
  Priority:
    Description: "The priority of the route map. Valid values: 1 to 100 . A lower\
      \ value indicates a higher priority. \n Note In the same region, for route maps\
      \ that are applied in the same direction, the priority is unique. When a route\
      \ map is implemented, the system matches conditions with a route map whose priority\
      \ number is the smallest. Therefore, make sure that you set priorities for route\
      \ maps to meet your requirements."
    Type: Number
  RouteTypes:
    Description: "Match statements are used to match the route types. Valid values:\
      \ \n System: system routes that are generated by the system. \n Custom: custom\
      \ routes that are created by users. \n BGP: Border Gateway Protocol (BGP) routes\
      \ that are advertised to BGP. \n You can enter multiple types."
    Type: Json
  SourceChildInstanceTypes:
    Description: "Match statements are used to match source instance types of the\
      \ routes. Valid values: \n VPC: VPCs. \n VBR: VBRs. \n CCN: CCN instances in\
      \ mainland China."
    Type: Json
  SourceInstanceIds:
    Description: "Match statements are used to match source instance IDs of the routes.\
      \ \n You can enter instance IDs of the following types: virtual private cloud\
      \ (VPC), virtual border router (VBR), Cloud Connect Network (CCN) in mainland\
      \ China, Smart Access Gateway (SAG). You can enter at most 32 instance IDs."
    Type: Json
  SourceInstanceIdsReverseMatch:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "The IDs of source instances to be advertised do not support match\
      \ statements. Valid values: \n false (default value): If the source instance\
      \ ID is in the SourceInstanceIds field, the match is successful. \n true: If\
      \ the source instance ID is not in the SourceInstanceIds field, the match is\
      \ successful."
    Type: Boolean
  SourceRegionIds:
    Description: Match statements are used to match source region IDs of the routes.
      You can enter at most 32 region IDs.
    Type: Json
  SourceRouteTableIds:
    Description: Match statements are used to match source route table IDs of the
      routes. You can enter at most 32 route table IDs.
    Type: Json
  TransmitDirection:
    Description: "The direction in which the route map is applied. Valid values: \n\
      \ RegionIn: Routes are advertised to CEN gateways. \n For example, routes are\
      \ advertised from network instances deployed in the current region or other\
      \ regions to the gateways deployed in the current region. \n RegionOut: Routes\
      \ are advertised from CEN gateways. \n For example, routes are advertised from\
      \ gateways deployed in the current region to network instances or gateways deployed\
      \ in other regions."
```

```
    Type: String
Resources:
  CENCenRouteMap:
    Properties:
      AsPathMatchMode:
        Ref: AsPathMatchMode
      CenId:
        Ref: CenId
      CenRegionId:
        Ref: CenRegionId
      CidrMatchMode:
        Ref: CidrMatchMode
      CommunityMatchMode:
        Ref: CommunityMatchMode
      CommunityOperateMode:
        Ref: CommunityOperateMode
      Description:
        Ref: Description
      DestinationChildInstanceTypes:
        Ref: DestinationChildInstanceTypes
      DestinationCidrBlocks:
        Ref: DestinationCidrBlocks
      DestinationInstanceIds:
        Ref: DestinationInstanceIds
      DestinationInstanceIdsReverseMatch:
        Ref: DestinationInstanceIdsReverseMatch
      DestinationRouteTableIds:
        Ref: DestinationRouteTableIds
      MapResult:
        Ref: MapResult
      MatchAsns:
        Ref: MatchAsns
      MatchCommunitySet:
        Ref: MatchCommunitySet
      NextPriority:
        Ref: NextPriority
      OperateCommunitySet:
        Ref: OperateCommunitySet
      Preference:
        Ref: Preference
      PrependAsPath:
        Ref: PrependAsPath
      Priority:
        Ref: Priority
      RouteTypes:
        Ref: RouteTypes
      SourceChildInstanceTypes:
        Ref: SourceChildInstanceTypes
      SourceInstanceIds:
        Ref: SourceInstanceIds
      SourceInstanceIdsReverseMatch:
        Ref: SourceInstanceIdsReverseMatch
      SourceRegionIds:
        Ref: SourceRegionIds
      SourceRouteTableIds:
        Ref: SourceRouteTableIds
      TransmitDirection:
        Ref: TransmitDirection
    Type: ALIYUN::CEN::CenRouteMap
Outputs:
  RouteMapId:
    Description: The ID of the route map.
    Value:
      Fn::GetAtt:
      - CENCenRouteMap
      - RouteMapId
```

14.7. ALIYUN::CEN::CenVbrHealthCheck

ALIYUN::CEN::CenVbrHealthCheck is used to enable the health check feature or modify the health check configuration for a virtual border router (VBR).

Syntax

```
{
  "Type": "ALIYUN::CEN::CenVbrHealthCheck",
  "Properties": {
    "VbrInstanceRegionId": String,
    "HealthCheckInterval": Integer,
    "VbrInstanceId": String,
    "VbrInstanceOwnerId": Integer,
    "HealthCheckSourceIp": String,
    "HealthyThreshold": Integer,
    "CenId": String,
    "HealthCheckTargetIp": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VbrInstanceRegionId	String	Yes	No	The region ID of the VBR.	None
HealthCheckInterval	Integer	No	Yes	The interval at which probe packets are sent during the health check.	Default value: 2. Valid values: • 2 • 3 Unit: seconds.
VbrInstanceId	String	Yes	No	The ID of the VBR.	None
VbrInstanceOwnerId	Integer	No	Yes	The UID of the account to which the VBR belongs.	None
HealthCheckSourceIp	String	No	Yes	The source IP address of the health check.	Use one of the following configuration methods: • Automatic IP address: The system automatically assigns an IP address within the CIDR block 100.96.0.0/16. This is the recommended option. • Custom source IP address: You can specify an IP address that is available within the 10.0.0.0/8, 192.168.0.0/16, or 172.16.0.0/12 CIDR block. The specified IP address must not conflict with the IP address of the VBR on the Alibaba Cloud side, the interface IP address of the customer-premises device that is connected to the VBR, or other IP addresses with which the VBR communicates within the Cloud Enterprise Network (CEN) instance.
HealthyThreshold	Integer	No	Yes	The number of probe packets that are sent during the health check.	Valid values: 3 to 8. Default value: 8.
CenId	String	Yes	No	The ID of the CEN instance.	None
HealthCheckTargetIp	String	Yes	Yes	The destination IP address of the health check.	The destination IP address of the VBR interface that is connected to the customer-premises device.

Response parameters

Fn::GetAtt

- VbrInstanceRegionId: The ID of the region where the VBR is deployed.
- HealthCheckInterval: The interval at which probe packets are sent during the health check.

- VbrInstanceId: the ID of the VBR.
- VbrInstanceOwnerId: the UID of the account to which the VBR belongs.
- HealthCheckSourceIp: the source IP address of the health check.
- HealthyThreshold: the number of probe packets that are sent during the health check.
- CenId: the ID of the CEN instance.
- HealthCheckTargetIp: the destination IP address of the health check.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VbrInstanceRegionId": {
      "Type": "String",
      "Description": "The ID of the region where the VBR instance is deployed. You can call the DescribeRegionsoperation to que
ry region IDs."
    },
    "HealthCheckInterval": {
      "Type": "Number",
      "Description": "Specifies the time interval at which probe packets are sent during the health check.  Default value: 2. V
alid values: 2 to 3.  Unit: second."
    },
    "VbrInstanceId": {
      "Type": "String",
      "Description": "The ID of the VBR instance."
    },
    "VbrInstanceOwnerId": {
      "Type": "Number",
      "Description": "The User ID (UID) of the account to which the VBR instance belongs."
    },
    "HealthCheckSourceIp": {
      "Type": "String",
      "Description": "You can use either of the following methods to specify the source IP address of the health check.  Automa
tic IP Address: The system automatically assigns an IP address within the CIDR block 100.96.0.0/16 (recommended).  Custom IP Ad
dress: You can specify a source IP address that is available within the CIDR block 10.0.0.0/8, 192.168.0.0/16, or 172.16.0.0/12
. The specified source IP address must not overlap with the IP addresses of the Alibaba Cloud-facing and client-facing interfac
es on the VBR instance, or the IP addresses of the instances with which the VBR instance needs to communicate in the CEN."
    },
    "HealthyThreshold": {
      "Type": "Number",
      "Description": "Specifies the number of probe packets to be sent during the health check.  Default value: 8. Valid values
: 3 to 8.  Unit: packet."
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the CEN instance."
    },
    "HealthCheckTargetIp": {
      "Type": "String",
      "Description": "Specifies the destination IP address of the health check. The destination IP address is the IP address of
the client-facing interface on the VBR instance."
    }
  },
  "Resources": {
    "CENCenVbrHealthCheck": {
      "Type": "ALIYUN::CEN::CenVbrHealthCheck",
      "Properties": {
        "VbrInstanceRegionId": {
          "Ref": "VbrInstanceRegionId"
        },
        "HealthCheckInterval": {
          "Ref": "HealthCheckInterval"
        },
        "VbrInstanceId": {
          "Ref": "VbrInstanceId"
        },
        "VbrInstanceOwnerId": {
          "Ref": "VbrInstanceOwnerId"
        },
        "HealthCheckSourceIp": {
          "Ref": "HealthCheckSourceIp"
```

```
        },
        "HealthyThreshold": {
          "Ref": "HealthyThreshold"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "HealthCheckTargetIp": {
          "Ref": "HealthCheckTargetIp"
        }
      }
    }
  },
  "Outputs": {
    "VbrInstanceRegionId": {
      "Description": "The ID of the region where the VBR instance is deployed. You can call the DescribeRegionsoperation to que
ry region IDs.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "VbrInstanceRegionId"
        ]
      }
    },
    "HealthCheckInterval": {
      "Description": "Specifies the time interval at which probe packets are sent during the health check.  Default value: 2. V
alid values: 2 to 3.  Unit: second.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "HealthCheckInterval"
        ]
      }
    },
    "VbrInstanceId": {
      "Description": "The ID of the VBR instance.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "VbrInstanceId"
        ]
      }
    },
    "VbrInstanceOwnerId": {
      "Description": "The User ID (UID) of the account to which the VBR instance belongs.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "VbrInstanceOwnerId"
        ]
      }
    },
    "HealthCheckSourceIp": {
      "Description": "You can use either of the following methods to specify the source IP address of the health check.  Automa
tic IP Address: The system automatically assigns an IP address within the CIDR block 100.96.0.0/16 (recommended).  Custom IP Ad
dress: You can specify a source IP address that is available within the CIDR block 10.0.0.0/8, 192.168.0.0/16, or 172.16.0.0/12
. The specified source IP address must not overlap with the IP addresses of the Alibaba Cloud-facing and client-facing interfac
es on the VBR instance, or the IP addresses of the instances with which the VBR instance needs to communicate in the CEN.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "HealthCheckSourceIp"
        ]
      }
    },
    "HealthyThreshold": {
      "Description": "Specifies the number of probe packets to be sent during the health check.  Default value: 8. Valid values
: 3 to 8.  Unit: packet.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "HealthyThreshold"
        ]
      }
```

```
    },
    "CenId": {
      "Description": "The ID of the CEN instance.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "CenId"
        ]
      }
    },
    "HealthCheckTargetIp": {
      "Description": "Specifies the destination IP address of the health check. The destination IP address is the IP address of
the client-facing interface on the VBR instance.",
      "Value": {
        "Fn::GetAtt": [
          "CENCenVbrHealthCheck",
          "HealthCheckTargetIp"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CenId:
    Description: The ID of the CEN instance.
    Type: String
  HealthCheckInterval:
    Description: 'Specifies the time interval at which probe packets are sent during
      the health check.  Default value: 2. Valid values: 2 to 3.  Unit: second.'
    Type: Number
  HealthCheckSourceIp:
    Description: 'You can use either of the following methods to specify the source
      IP address of the health check.  Automatic IP Address: The system automatically
      assigns an IP address within the CIDR block 100.96.0.0/16 (recommended).  Custom
      IP Address: You can specify a source IP address that is available within the
      CIDR block 10.0.0.0/8, 192.168.0.0/16, or 172.16.0.0/12. The specified source
      IP address must not overlap with the IP addresses of the Alibaba Cloud-facing
      and client-facing interfaces on the VBR instance, or the IP addresses of the
      instances with which the VBR instance needs to communicate in the CEN.'
    Type: String
  HealthCheckTargetIp:
    Description: Specifies the destination IP address of the health check. The destination
      IP address is the IP address of the client-facing interface on the VBR instance.
    Type: String
  HealthyThreshold:
    Description: 'Specifies the number of probe packets to be sent during the health
      check.  Default value: 8. Valid values: 3 to 8.  Unit: packet.'
    Type: Number
  VbrInstanceId:
    Description: The ID of the VBR instance.
    Type: String
  VbrInstanceOwnerId:
    Description: The User ID (UID) of the account to which the VBR instance belongs.
    Type: Number
  VbrInstanceRegionId:
    Description: The ID of the region where the VBR instance is deployed. You can
      call the DescribeRegionsoperation to query region IDs.
    Type: String
Resources:
  CENCenVbrHealthCheck:
    Properties:
      CenId:
        Ref: CenId
      HealthCheckInterval:
        Ref: HealthCheckInterval
      HealthCheckSourceIp:
        Ref: HealthCheckSourceIp
      HealthCheckTargetIp:
        Ref: HealthCheckTargetIp
      HealthyThreshold:
```

```
      HealthyThreshold:
        Ref: HealthyThreshold
      VbrInstanceId:
        Ref: VbrInstanceId
      VbrInstanceOwnerId:
        Ref: VbrInstanceOwnerId
      VbrInstanceRegionId:
        Ref: VbrInstanceRegionId
    Type: ALIYUN::CEN::CenVbrHealthCheck
Outputs:
  CenId:
    Description: The ID of the CEN instance.
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - CenId
  HealthCheckInterval:
    Description: 'Specifies the time interval at which probe packets are sent during
      the health check.  Default value: 2. Valid values: 2 to 3.  Unit: second.'
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - HealthCheckInterval
  HealthCheckSourceIp:
    Description: 'You can use either of the following methods to specify the source
      IP address of the health check.  Automatic IP Address: The system automatically
      assigns an IP address within the CIDR block 100.96.0.0/16 (recommended).  Custom
      IP Address: You can specify a source IP address that is available within the
      CIDR block 10.0.0.0/8, 192.168.0.0/16, or 172.16.0.0/12. The specified source
      IP address must not overlap with the IP addresses of the Alibaba Cloud-facing
      and client-facing interfaces on the VBR instance, or the IP addresses of the
      instances with which the VBR instance needs to communicate in the CEN.'
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - HealthCheckSourceIp
  HealthCheckTargetIp:
    Description: Specifies the destination IP address of the health check. The destination
      IP address is the IP address of the client-facing interface on the VBR instance.
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - HealthCheckTargetIp
  HealthyThreshold:
    Description: 'Specifies the number of probe packets to be sent during the health
      check.  Default value: 8. Valid values: 3 to 8.  Unit: packet.'
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - HealthyThreshold
  VbrInstanceId:
    Description: The ID of the VBR instance.
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - VbrInstanceId
  VbrInstanceOwnerId:
    Description: The User ID (UID) of the account to which the VBR instance belongs.
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - VbrInstanceOwnerId
  VbrInstanceRegionId:
    Description: The ID of the region where the VBR instance is deployed. You can
      call the DescribeRegionsoperation to query region IDs.
    Value:
      Fn::GetAtt:
      - CENCenVbrHealthCheck
      - VbrInstanceRegionId
```

14.8. ALIYUN::CEN::CenRouteService

ALIYUN::CEN::CenRouteService is used to access an Alibaba Cloud service.

For more information about Alibaba Cloud services, see Description.

Syntax

```
{
  "Type": "ALIYUN::CEN::CenRouteService",
  "Properties": {
    "Description": String,
    "HostRegionId": String,
    "CenId": String,
    "AccessRegionId": String,
    "Host": String,
    "HostVpcId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the cloud service.	The description must be 2 to 256 characters in length, and can contain letters, digits, hyphens (-), periods (.), and underscores (_). It must start with a letter and cannot start with `http://` or `https://`.
HostRegionId	String	Yes	No	The region ID of the cloud service.	None.
CenId	String	Yes	No	The ID of the Cloud Enterprise Network (CEN) instance.	You can call the CreateCen operation to query the instance ID. For more information, see CreateCen.
AccessRegionId	String	Yes	No	The region ID of the cloud service that you want to access.	You can call the DescribeChildInstanceRegions operation to query the most recent region list. For more information, see DescribeChildInstanceRegions.
Host	String	Yes	No	The IP addresses or CIDR blocks of the cloud service.	In most cases, multiple IP addresses or CIDR blocks are attached to the cloud service. We recommend that you specify the ALIYUN::CEN::CenRouteService resource type multiple times to add all IP addresses and CIDR blocks of the cloud service.
HostVpcId	String	Yes	No	The ID of the virtual private cloud (VPC) that is associated with the cloud service.	None.

Response parameters

Fn::GetAtt

Id: the ID of the cloud service. The ID is in the `{the CenId value}/{the HostRegionId value}/{the Host value}/{the AccessRegionId value}` format.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "HostRegionId": {
      "Type": "String",
      "Description": "The region where the cloud service is deployed.\nYou can call the DescribeRegions operation to query regi
on IDs.\nNote The HostRegionId and AccessRegionIds.N must be set to the same value.",
      "Default": "cn-hangzhou"
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the Cloud Enterprise Network (CEN) instance.",
      "Default": "cen-2****"
    },
    "AccessRegionId": {
      "Type": "String",
      "Description": "The region where the cloud service is deployed.",
      "Default": "cn-hangzhou"
    },
    "Host": {
      "Type": "String",
      "Description": "The domain or IP address of the cloud service.",
      "Default": "100.118.28.0/24"
    },
    "HostVpcId": {
      "Type": "String",
      "Description": "The virtual private cloud (VPC) that is associated with the cloud service.",
      "Default": "vpc-2****"
    }
  },
  "Resources": {
    "CenRouteService": {
      "Type": "ALIYUN::CEN::CenRouteService",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "HostRegionId": {
          "Ref": "HostRegionId"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "AccessRegionId": {
          "Ref": "AccessRegionId"
        },
        "Host": {
          "Ref": "Host"
        },
        "HostVpcId": {
          "Ref": "HostVpcId"
        }
      }
    }
  },
  "Outputs": {
    "Id": {
      "Description": "The ID of the cloud service. It is formatted to {CenId}/{HostRegionId}/{Host}/{AccessRegionId}",
      "Value": {
        "Fn::GetAtt": [
          "CenRouteService",
          "Id"
        ]
      }
    }
  }
}
```

14.9. ALIYUN::CEN::RouteEntry

ALIYUN::CEN::RouteEntry is used to advertise a routing entry of an attached VPC or VBR to a CEN instance.

Syntax

```
{
  "Type": "ALIYUN::CEN::RouteEntry",
  "Properties": {
    "ChildInstanceRegionId": String,
    "CenId": String,
    "DestinationCidrBlock": String,
    "ChildInstanceRouteTableId": String,
    "ChildInstanceType": String,
    "ChildInstanceId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
ChildInstanceRegionId	String	Yes	No	The ID of the region where the attached network (VBR or VPC) is located.	None
CenId	String	Yes	No	The ID of the CEN instance where the routing entry is advertised.	None
DestinationCidrBlock	String	Yes	No	The destination CIDR block of the routing entry.	None
ChildInstanceRouteTableId	String	Yes	No	The ID of the routing table of the attached network.	None
ChildInstanceType	String	Yes	No	The type of the attached network.	Valid values: • VPC • VBR
ChildInstanceId	String	Yes	No	The ID of the attached network.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "RouteEntry": {
      "Type": "ALIYUN::CEN::RouteEntry",
      "Properties": {
        "ChildInstanceRegionId": {
          "Ref": "ChildInstanceRegionId"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "DestinationCidrBlock": {
          "Ref": "DestinationCidrBlock"
        },
        "ChildInstanceRouteTableId": {
          "Ref": "ChildInstanceRouteTableId"
        },
        "ChildInstanceType": {
          "Ref": "ChildInstanceType"
        },
        "ChildInstanceId": {
          "Ref": "ChildInstanceId"
        }
      }
    }
  },
  "Parameters": {
    "ChildInstanceRegionId": {
      "Type": "String",
      "Description": "The ID of the region where the attached VBR or VPC is located."
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the CEN instance where the route entry is published."
    },
    "DestinationCidrBlock": {
      "Type": "String",
      "Description": "The destination CIDR block of the route entry to publish."
    },
    "ChildInstanceRouteTableId": {
      "Type": "String",
      "Description": "The routing table of the attached VBR or VPC."
    },
    "ChildInstanceType": {
      "Type": "String",
      "Description": "The type of the network. Valid values: VPC and VBR.",
      "AllowedValues": [
        "VPC",
        "VBR"
      ]
    },
    "ChildInstanceId": {
      "Type": "String",
      "Description": "The ID of the attached network (VPC or VBR)."
    }
  },
  "Outputs": {}
}
```

14.10. ALIYUN::CEN::TransitRouter

ALIYUN::CEN::TransitRouter is used to create an Enterprise Edition transit router.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouter",
  "Properties": {
    "CenId": String,
    "TransitRouterDescription": String,
    "TransitRouterName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
CenId	String	Yes	No	The ID of the Cloud Enterprise Network (CEN) instance.	None
TransitRouterDescription	String	No	Yes	The description of the transit router.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://` .
TransitRouterName	String	No	Yes	The name of the transit router.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://` .

Response parameters

Fn::GetAtt

- Type: the type of the transit router.
- CenId: the ID of the CEN instance.
- TransitRouterName: the name of the transit router.
- TransitRouterDescription: the description of the transit router.
- TransitRouterId: the ID of the Enterprise Edition transit router.
- AliUid: the ID of the Alibaba Cloud account to which the CEN instance belongs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "CenId": {
      "Type": "String",
      "Description": "CenId"
    },
    "TransitRouterName": {
      "Type": "String",
      "Description": "TransitRouterName"
    },
    "TransitRouterDescription": {
      "Type": "String",
      "Description": "TransitRouterDescription"
    }
  },
  "Resources": {
    "CENTransitRouter": {
      "Type": "ALIYUN::CEN::TransitRouter",
      "Properties": {
        "CenId": {
          "Ref": "CenId"
        },
        "TransitRouterName": {
          "Ref": "TransitRouterName"
        },
        "TransitRouterDescription": {
```

```
          "Ref": "TransitRouterDescription"
        }
      }
    }
  },
  "Outputs": {
    "Type": {
      "Description": "Type",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouter",
          "Type"
        ]
      }
    },
    "CenId": {
      "Description": "CenId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouter",
          "CenId"
        ]
      }
    },
    "TransitRouterName": {
      "Description": "TransitRouterName",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouter",
          "TransitRouterName"
        ]
      }
    },
    "TransitRouterDescription": {
      "Description": "TransitRouterDescription",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouter",
          "TransitRouterDescription"
        ]
      }
    },
    "TransitRouterId": {
      "Description": "TransitRouterId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouter",
          "TransitRouterId"
        ]
      }
    },
    "AliUid": {
      "Description": "AliUid",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouter",
          "AliUid"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CenId:
    Description: CenId
    Type: String
  TransitRouterDescription:
    Description: TransitRouterDescription
    Type: String
  TransitRouterName:
    Description: TransitRouterName
    Type: String
Resources:
  CENTransitRouter:
    Properties:
      CenId:
        Ref: CenId
      TransitRouterDescription:
        Ref: TransitRouterDescription
      TransitRouterName:
        Ref: TransitRouterName
    Type: ALIYUN::CEN::TransitRouter
Outputs:
  AliUid:
    Description: AliUid
    Value:
      Fn::GetAtt:
      - CENTransitRouter
      - AliUid
  CenId:
    Description: CenId
    Value:
      Fn::GetAtt:
      - CENTransitRouter
      - CenId
  TransitRouterDescription:
    Description: TransitRouterDescription
    Value:
      Fn::GetAtt:
      - CENTransitRouter
      - TransitRouterDescription
  TransitRouterId:
    Description: TransitRouterId
    Value:
      Fn::GetAtt:
      - CENTransitRouter
      - TransitRouterId
  TransitRouterName:
    Description: TransitRouterName
    Value:
      Fn::GetAtt:
      - CENTransitRouter
      - TransitRouterName
  Type:
    Description: Type
    Value:
      Fn::GetAtt:
      - CENTransitRouter
      - Type
```

14.11. ALIYUN::CEN::TransitRouterPeerAttachment

ALIYUN::CEN::TransitRouterPeerAttachment is used to create a cross-region connection for an Enterprise Edition transit router.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterPeerAttachment",
  "Properties": {
    "AutoPublishRouteEnabled": Boolean,
    "Bandwidth": Integer,
    "CenId": String,
    "TransitRouterAttachmentName": String,
    "PeerTransitRouterId": String,
    "CenBandwidthPackageId": String,
    "TransitRouterAttachmentDescription": String,
    "TransitRouterId": String,
    "PeerTransitRouterRegionId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AutoPublishRouteEnabled	Boolean	No	Yes	Specifies whether to enable the Enterprise Edition transit router to automatically advertise routes of the cross-region connection to the peer region.	Default value: false. Valid values: • false: The Enterprise Edition transit router does not automatically advertise routes to the VBR. • true: The Enterprise Edition transit router automatically advertises routes to the VBR.
CenId	String	No	No	The ID of the Cloud Enterprise Network (CEN) instance.	None
TransitRouterAttachmentName	String	No	Yes	The name of the cross-region connection.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.
Bandwidth	Integer	No	Yes	The bandwidth that you want to allocate to the cross-region connection.	Unit: Mbit/s.
PeerTransitRouterId	String	Yes	No	The ID of the peer transit router.	None
CenBandwidthPackageId	String	No	Yes	The ID of the bandwidth plan that is used to allocate bandwidth to the cross-region connection.	If the ID of the bandwidth plan is not specified, the default test bandwidth (1 Kbit/s) is used to test network connectivity.
TransitRouterAttachmentDescription	String	No	Yes	The description of the cross-region connection.	The description must be 2 to 256 characters in length. It must start with a letter but cannot start with `http://` or `https://`.
TransitRouterId	String	No	No	The ID of the local Enterprise Edition transit router.	None
PeerTransitRouterRegionId	String	No	No	The region ID of the peer transit router.	None

Response parameters

Fn::GetAtt

- TransitRouterAttachmentId: the ID of the cross-region connection.
- GeographicSpanId: the ID of the connected area of the bandwidth plan.
- PeerTransitRouterOwnerId: the ID of the Alibaba Cloud account to which the peer transit router belongs.
- TransitRouterAttachmentName: the name of the cross-region connection.
- ResourceType: the type of the resource.
- AutoPublishRouteEnabled: indicates whether the Enterprise Edition transit router automatically advertises routes of the cross-region connection to the peer region.
- Bandwidth: the bandwidth allocated to the cross-region connection.
- CenId: the ID of the CEN instance.
- PeerTransitRouterId: the ID of the peer transit router.
- ClientToken: the client token used to ensure the idempotence of the request.
- CenBandwidthPackageId: the ID of the bandwidth plan that is used to allocate bandwidth to the cross-region connection.
- TransitRouterAttachmentDescription: the description of the cross-region connection.
- TransitRouterId: the ID of the local Enterprise Edition transit router.
- PeerTransitRouterRegionId: the region ID of the peer transit router.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AutoPublishRouteEnabled": {
      "Type": "Boolean",
      "Description": "AutoPublishRouteEnabled",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "Bandwidth"
    },
    "CenId": {
      "Type": "String",
      "Description": "CenId"
    },
    "TransitRouterAttachmentName": {
      "Type": "String",
      "Description": "TransitRouterAttachmentName"
    },
    "PeerTransitRouterId": {
      "Type": "String",
      "Description": "PeerTransitRouterId"
    },
    "CenBandwidthPackageId": {
      "Type": "String",
      "Description": "BandwidthPackageId"
    },
    "TransitRouterAttachmentDescription": {
      "Type": "String",
      "Description": "TransitRouterAttachmentDescription"
    },
    "TransitRouterId": {
      "Type": "String",
      "Description": "TransitRouterId"
    },
    "PeerTransitRouterRegionId": {
      "Type": "String",
      "Description": "PeerTransitRouterRegionId"
    }
  },
  "Resources": {
    "CENTransitRouterPeerAttachment": {
      "Type": "ALIYUN::CEN::TransitRouterPeerAttachment",
      "Properties": {
```

```
        "AutoPublishRouteEnabled": {
          "Ref": "AutoPublishRouteEnabled"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "TransitRouterAttachmentName": {
          "Ref": "TransitRouterAttachmentName"
        },
        "PeerTransitRouterId": {
          "Ref": "PeerTransitRouterId"
        },
        "CenBandwidthPackageId": {
          "Ref": "CenBandwidthPackageId"
        },
        "TransitRouterAttachmentDescription": {
          "Ref": "TransitRouterAttachmentDescription"
        },
        "TransitRouterId": {
          "Ref": "TransitRouterId"
        },
        "PeerTransitRouterRegionId": {
          "Ref": "PeerTransitRouterRegionId"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterAttachmentId": {
      "Description": "The first ID of the resource",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "TransitRouterAttachmentId"
        ]
      }
    },
    "GeographicSpanId": {
      "Description": "GeographicSpanId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "GeographicSpanId"
        ]
      }
    },
    "PeerTransitRouterOwnerId": {
      "Description": "PeerTransitRouterOwnerId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "PeerTransitRouterOwnerId"
        ]
      }
    },
    "TransitRouterAttachmentName": {
      "Description": "TransitRouterAttachmentName",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "TransitRouterAttachmentName"
        ]
      }
    },
    "ResourceType": {
      "Description": "ResourceType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "ResourceType"
        ]
```

```
      }
    },
    "AutoPublishRouteEnabled": {
      "Description": "AutoPublishRouteEnabled",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "AutoPublishRouteEnabled"
        ]
      }
    },
    "Bandwidth": {
      "Description": "Bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "Bandwidth"
        ]
      }
    },
    "CenId": {
      "Description": "CenId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "CenId"
        ]
      }
    },
    "PeerTransitRouterId": {
      "Description": "PeerTransitRouterId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "PeerTransitRouterId"
        ]
      }
    },
    "ClientToken": {
      "Description": "ClientToken",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "ClientToken"
        ]
      }
    },
    "CenBandwidthPackageId": {
      "Description": "BandwidthPackageId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "CenBandwidthPackageId"
        ]
      }
    },
    "TransitRouterAttachmentDescription": {
      "Description": "TransitRouterAttachmentDescription",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "TransitRouterAttachmentDescription"
        ]
      }
    },
    "TransitRouterId": {
      "Description": "TransitRouterId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "TransitRouterId"
        ]
      }
    },
    "PeerTransitRouterRegionId": {
```

```
    "PeerTransitRouterRegionId": {
      "Description": "PeerTransitRouterRegionId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterPeerAttachment",
          "PeerTransitRouterRegionId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoPublishRouteEnabled:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: AutoPublishRouteEnabled
    Type: Boolean
  Bandwidth:
    Description: Bandwidth
    Type: Number
  CenBandwidthPackageId:
    Description: BandwidthPackageId
    Type: String
  CenId:
    Description: CenId
    Type: String
  PeerTransitRouterId:
    Description: PeerTransitRouterId
    Type: String
  PeerTransitRouterRegionId:
    Description: PeerTransitRouterRegionId
    Type: String
  TransitRouterAttachmentDescription:
    Description: TransitRouterAttachmentDescription
    Type: String
  TransitRouterAttachmentName:
    Description: TransitRouterAttachmentName
    Type: String
  TransitRouterId:
    Description: TransitRouterId
    Type: String
Resources:
  CENTransitRouterPeerAttachment:
    Properties:
      AutoPublishRouteEnabled:
        Ref: AutoPublishRouteEnabled
      Bandwidth:
        Ref: Bandwidth
      CenBandwidthPackageId:
        Ref: CenBandwidthPackageId
      CenId:
        Ref: CenId
      PeerTransitRouterId:
        Ref: PeerTransitRouterId
      PeerTransitRouterRegionId:
        Ref: PeerTransitRouterRegionId
      TransitRouterAttachmentDescription:
        Ref: TransitRouterAttachmentDescription
      TransitRouterAttachmentName:
        Ref: TransitRouterAttachmentName
      TransitRouterId:
        Ref: TransitRouterId
    Type: ALIYUN::CEN::TransitRouterPeerAttachment
Outputs:
  AutoPublishRouteEnabled:
    Description: AutoPublishRouteEnabled
    Value:
```

```
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - AutoPublishRouteEnabled
  Bandwidth:
    Description: Bandwidth
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - Bandwidth
  CenBandwidthPackageId:
    Description: BandwidthPackageId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - CenBandwidthPackageId
  CenId:
    Description: CenId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - CenId
  ClientToken:
    Description: ClientToken
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - ClientToken
  GeographicSpanId:
    Description: GeographicSpanId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - GeographicSpanId
  PeerTransitRouterId:
    Description: PeerTransitRouterId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - PeerTransitRouterId
  PeerTransitRouterOwnerId:
    Description: PeerTransitRouterOwnerId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - PeerTransitRouterOwnerId
  PeerTransitRouterRegionId:
    Description: PeerTransitRouterRegionId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - PeerTransitRouterRegionId
  ResourceType:
    Description: ResourceType
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - ResourceType
  TransitRouterAttachmentDescription:
    Description: TransitRouterAttachmentDescription
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - TransitRouterAttachmentDescription
  TransitRouterAttachmentId:
    Description: The first ID of the resource
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - TransitRouterAttachmentId
  TransitRouterAttachmentName:
    Description: TransitRouterAttachmentName
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
```

```
      - TransitRouterAttachmentName
  TransitRouterId:
    Description: TransitRouterId
    Value:
      Fn::GetAtt:
      - CENTransitRouterPeerAttachment
      - TransitRouterId
```

14.12. ALIYUN::CEN::TransitRouterRouteEntry

ALIYUN::CEN::TransitRouterRouteEntry is used to add a route to a route table of an Enterprise Edition transit router.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterRouteEntry",
  "Properties": {
    "TransitRouterRouteTableId": String,
    "TransitRouterRouteEntryDestinationCidrBlock": String,
    "TransitRouterRouteEntryNextHopId": String,
    "TransitRouterRouteEntryDescription": String,
    "TransitRouterRouteEntryNextHopType": String,
    "TransitRouterRouteEntryName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TransitRouterRouteTableId	String	Yes	No	The ID of the route table of the Enterprise Edition transit router.	None
TransitRouterRouteEntryDestinationCidrBlock	String	Yes	No	The destination CIDR block of the route.	None
TransitRouterRouteEntryNextHopId	String	No	No	The ID of the network instance connection that you want to specify as the next hop.	None
TransitRouterRouteEntryDescription	String	No	Yes	The description of the route.	The name must be 2 to 256 characters in length and can contain letters, digits, and special characters. Special characters include , . ; / @ _ -
TransitRouterRouteEntryNextHopType	String	Yes	No	The type of the next hop.	Valid values: • BlackHole: routes network traffic to a black hole. All packets that match this route are dropped. If you select this option, you do not need to specify the next hop information. • Attachment: routes network traffic to a network instance connection. If you select this option, you must specify the ID of the network instance connection. All packets that match this route are routed to the specified network instance connection.
TransitRouterRouteEntryName	String	No	Yes	The name of the route.	The name must be 0 to 128 characters in length and can contain letters, digits, and special characters. Special characters include , . ; / @ _ -

Response parameters

Fn::GetAtt

- TransitRouterRouteTableId: the route table ID of the Enterprise Edition transit router.
- TransitRouterRouteEntryDestinationCidrBlock: the destination CIDR block of the route.
- TransitRouterRouteEntryNextHopId: the ID of the network instance connection specified as the next hop.
- TransitRouterRouteEntryType: the type of the route.
- TransitRouterRouteEntryDescription: the description of the route.
- TransitRouterRouteEntryNextHopType: the type of the next hop.
- TransitRouterRouteEntryName: the name of the route.
- TransitRouterRouteEntryId: the ID of the route.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TransitRouterRouteTableId": {
      "Type": "String",
      "Description": "TransitRouterRouteTableId"
    },
    "TransitRouterRouteEntryDestinationCidrBlock": {
      "Type": "String",
      "Description": "TransitRouterRouteEntryDestinationCidrBlock"
    },
    "TransitRouterRouteEntryNextHopId": {
      "Type": "String",
      "Description": "TransitRouterRouteEntryNextHopId"
    },
    "TransitRouterRouteEntryDescription": {
      "Type": "String",
      "Description": "TransitRouterRouteEntryDescription"
    },
    "TransitRouterRouteEntryNextHopType": {
      "Type": "String",
      "Description": "TransitRouterRouteEntryNextHopType"
    },
    "TransitRouterRouteEntryName": {
      "Type": "String",
      "Description": "TransitRouterRouteEntryName"
    }
  },
  "Resources": {
    "CENTransitRouterRouteEntry": {
      "Type": "ALIYUN::CEN::TransitRouterRouteEntry",
      "Properties": {
        "TransitRouterRouteTableId": {
          "Ref": "TransitRouterRouteTableId"
        },
        "TransitRouterRouteEntryDestinationCidrBlock": {
          "Ref": "TransitRouterRouteEntryDestinationCidrBlock"
        },
        "TransitRouterRouteEntryNextHopId": {
          "Ref": "TransitRouterRouteEntryNextHopId"
        },
        "TransitRouterRouteEntryDescription": {
          "Ref": "TransitRouterRouteEntryDescription"
        },
        "TransitRouterRouteEntryNextHopType": {
          "Ref": "TransitRouterRouteEntryNextHopType"
        },
        "TransitRouterRouteEntryName": {
          "Ref": "TransitRouterRouteEntryName"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterRouteTableId": {
      "Description": "TransitRouterRouteTableId",
      "Value": {
        "Fn::GetAtt": [
```

```
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteTableId"
        ]
      }
    },
    "TransitRouterRouteEntryDestinationCidrBlock": {
      "Description": "TransitRouterRouteEntryDestinationCidrBlock",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryDestinationCidrBlock"
        ]
      }
    },
    "TransitRouterRouteEntryNextHopId": {
      "Description": "TransitRouterRouteEntryNextHopId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryNextHopId"
        ]
      }
    },
    "TransitRouterRouteEntryType": {
      "Description": "TransitRouterRouteEntryType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryType"
        ]
      }
    },
    "TransitRouterRouteEntryDescription": {
      "Description": "TransitRouterRouteEntryDescription",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryDescription"
        ]
      }
    },
    "TransitRouterRouteEntryNextHopType": {
      "Description": "TransitRouterRouteEntryNextHopType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryNextHopType"
        ]
      }
    },
    "TransitRouterRouteEntryName": {
      "Description": "TransitRouterRouteEntryName",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryName"
        ]
      }
    },
    "TransitRouterRouteEntryId": {
      "Description": "The first ID of the resource",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteEntry",
          "TransitRouterRouteEntryId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  TransitRouterRouteEntryDescription:
    Description: TransitRouterRouteEntryDescription
    Type: String
  TransitRouterRouteEntryDestinationCidrBlock:
    Description: TransitRouterRouteEntryDestinationCidrBlock
    Type: String
  TransitRouterRouteEntryName:
    Description: TransitRouterRouteEntryName
    Type: String
  TransitRouterRouteEntryNextHopId:
    Description: TransitRouterRouteEntryNextHopId
    Type: String
  TransitRouterRouteEntryNextHopType:
    Description: TransitRouterRouteEntryNextHopType
    Type: String
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Type: String
Resources:
  CENTransitRouterRouteEntry:
    Properties:
      TransitRouterRouteEntryDescription:
        Ref: TransitRouterRouteEntryDescription
      TransitRouterRouteEntryDestinationCidrBlock:
        Ref: TransitRouterRouteEntryDestinationCidrBlock
      TransitRouterRouteEntryName:
        Ref: TransitRouterRouteEntryName
      TransitRouterRouteEntryNextHopId:
        Ref: TransitRouterRouteEntryNextHopId
      TransitRouterRouteEntryNextHopType:
        Ref: TransitRouterRouteEntryNextHopType
      TransitRouterRouteTableId:
        Ref: TransitRouterRouteTableId
    Type: ALIYUN::CEN::TransitRouterRouteEntry
Outputs:
  TransitRouterRouteEntryDescription:
    Description: TransitRouterRouteEntryDescription
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryDescription
  TransitRouterRouteEntryDestinationCidrBlock:
    Description: TransitRouterRouteEntryDestinationCidrBlock
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryDestinationCidrBlock
  TransitRouterRouteEntryId:
    Description: The first ID of the resource
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryId
  TransitRouterRouteEntryName:
    Description: TransitRouterRouteEntryName
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryName
  TransitRouterRouteEntryNextHopId:
    Description: TransitRouterRouteEntryNextHopId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryNextHopId
  TransitRouterRouteEntryNextHopType:
    Description: TransitRouterRouteEntryNextHopType
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryNextHopType
  TransitRouterRouteEntryType:
```

```
    Description: TransitRouterRouteEntryType
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteEntryType
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteEntry
      - TransitRouterRouteTableId
```

14.13. ALIYUN::CEN::TransitRouterRouteTable

ALIYUN::CEN::TransitRouterRouteTable is used to create a custom route table for an Enterprise Edition transit router.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterRouteTable",
  "Properties": {
    "TransitRouterRouteTableDescription": String,
    "TransitRouterRouteTableName": String,
    "TransitRouterId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TransitRouterRouteTableDescription	String	No	Yes	The description of the custom route table.	The description must be 2 to 256 characters in length and can contain letters, digits, and special characters. Special characters include , . ; / @ _ -
TransitRouterRouteTableName	String	No	Yes	The name of the custom route table.	The name must be 0 to 128 characters in length and can contain letters, digits, and special characters. Special characters include , . ; / @ _ -
TransitRouterId	String	Yes	No	The ID of the Enterprise Edition transit router.	None

Response parameters

Fn::GetAtt

- TransitRouterRouteTableId: the ID of the custom route table.
- TransitRouterRouteTableType: the type of the custom route table.
- TransitRouterRouteTableDescription: the description of the custom route table.
- TransitRouterRouteTableName: the name of the custom route table.
- ClientToken: the client token that is used to ensure the idempotence of the request.
- TransitRouterId: the ID of the Enterprise Edition transit router.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TransitRouterRouteTableDescription": {
      "Type": "String",
      "Description": "TransitRouterRouteTableDescription"
    },
    "TransitRouterRouteTableName": {
      "Type": "String",
      "Description": "TransitRouterRouteTableName"
    },
    "TransitRouterId": {
```

```
      "Type": "String",
      "Description": "TransitRouterId"
    }
  },
  "Resources": {
    "CENTransitRouterRouteTable": {
      "Type": "ALIYUN::CEN::TransitRouterRouteTable",
      "Properties": {
        "TransitRouterRouteTableDescription": {
          "Ref": "TransitRouterRouteTableDescription"
        },
        "TransitRouterRouteTableName": {
          "Ref": "TransitRouterRouteTableName"
        },
        "TransitRouterId": {
          "Ref": "TransitRouterId"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterRouteTableId": {
      "Description": "TransitRouterRouteTableId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTable",
          "TransitRouterRouteTableId"
        ]
      }
    },
    "TransitRouterRouteTableType": {
      "Description": "TransitRouterRouteTableType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTable",
          "TransitRouterRouteTableType"
        ]
      }
    },
    "TransitRouterRouteTableDescription": {
      "Description": "TransitRouterRouteTableDescription",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTable",
          "TransitRouterRouteTableDescription"
        ]
      }
    },
    "TransitRouterRouteTableName": {
      "Description": "TransitRouterRouteTableName",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTable",
          "TransitRouterRouteTableName"
        ]
      }
    },
    "ClientToken": {
      "Description": "ClientToken",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTable",
          "ClientToken"
        ]
      }
    },
    "TransitRouterId": {
      "Description": "TransitRouterId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTable",
          "TransitRouterId"
        ]
      }
```

```
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  TransitRouterId:
    Description: TransitRouterId
    Type: String
  TransitRouterRouteTableDescription:
    Description: TransitRouterRouteTableDescription
    Type: String
  TransitRouterRouteTableName:
    Description: TransitRouterRouteTableName
    Type: String
Resources:
  CENTransitRouterRouteTable:
    Properties:
      TransitRouterId:
        Ref: TransitRouterId
      TransitRouterRouteTableDescription:
        Ref: TransitRouterRouteTableDescription
      TransitRouterRouteTableName:
        Ref: TransitRouterRouteTableName
    Type: ALIYUN::CEN::TransitRouterRouteTable
Outputs:
  ClientToken:
    Description: ClientToken
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTable
      - ClientToken
  TransitRouterId:
    Description: TransitRouterId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTable
      - TransitRouterId
  TransitRouterRouteTableDescription:
    Description: TransitRouterRouteTableDescription
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTable
      - TransitRouterRouteTableDescription
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTable
      - TransitRouterRouteTableId
  TransitRouterRouteTableName:
    Description: TransitRouterRouteTableName
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTable
      - TransitRouterRouteTableName
  TransitRouterRouteTableType:
    Description: TransitRouterRouteTableType
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTable
      - TransitRouterRouteTableType
```

14.14. ALIYUN::CEN::TransitRouterRouteTableAssociation

ALIYUN::CEN::TransitRouterRouteTableAssociation is used to create an associated forwarding correlation.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterRouteTableAssociation",
  "Properties": {
    "TransitRouterRouteTableId": String,
    "TransitRouterAttachmentId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TransitRouterRouteTableId	String	Yes	No	The route table ID of the Enterprise Edition transit router.	None
TransitRouterAttachmentId	String	Yes	No	The ID of the network instance connection.	None

Response parameters

Fn::GetAtt

- TransitRouterRouteTableId: the route table ID of the Enterprise Edition transit router.
- TransitRouterAttachmentId: the ID of the network instance connection.
- ResourceId: the ID of the resource.
- ResourceType: the type of the resource.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TransitRouterRouteTableId": {
      "Type": "String",
      "Description": "TransitRouterRouteTableId"
    },
    "TransitRouterAttachmentId": {
      "Type": "String",
      "Description": "TransitRouterAttachmentId"
    }
  },
  "Resources": {
    "CENTransitRouterRouteTableAssociation": {
      "Type": "ALIYUN::CEN::TransitRouterRouteTableAssociation",
      "Properties": {
        "TransitRouterRouteTableId": {
          "Ref": "TransitRouterRouteTableId"
        },
        "TransitRouterAttachmentId": {
          "Ref": "TransitRouterAttachmentId"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterRouteTableId": {
      "Description": "TransitRouterRouteTableId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTableAssociation",
          "TransitRouterRouteTableId"
        ]
      }
    },
    "TransitRouterAttachmentId": {
      "Description": "TransitRouterAttachmentId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTableAssociation",
          "TransitRouterAttachmentId"
        ]
      }
    },
    "ResourceId": {
      "Description": "ResourceId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTableAssociation",
          "ResourceId"
        ]
      }
    },
    "ResourceType": {
      "Description": "ResourceType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTableAssociation",
          "ResourceType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  TransitRouterAttachmentId:
    Description: TransitRouterAttachmentId
    Type: String
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Type: String
Resources:
  CENTransitRouterRouteTableAssociation:
    Properties:
      TransitRouterAttachmentId:
        Ref: TransitRouterAttachmentId
      TransitRouterRouteTableId:
        Ref: TransitRouterRouteTableId
    Type: ALIYUN::CEN::TransitRouterRouteTableAssociation
Outputs:
  ResourceId:
    Description: ResourceId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTableAssociation
      - ResourceId
  ResourceType:
    Description: ResourceType
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTableAssociation
      - ResourceType
  TransitRouterAttachmentId:
    Description: TransitRouterAttachmentId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTableAssociation
      - TransitRouterAttachmentId
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTableAssociation
      - TransitRouterRouteTableId
```

14.15. ALIYUN::CEN::TransitRouterRouteTablePropagation

ALIYUN::CEN::TransitRouterRouteTablePropagation is used to create a route learning correlation.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterRouteTablePropagation",
  "Properties": {
    "TransitRouterRouteTableId": String,
    "TransitRouterAttachmentId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TransitRouterRouteTableId	String	Yes	No	The route table ID of the Enterprise Edition transit router.	None
TransitRouterAttachmentId	String	Yes	No	The ID of the network instance connection.	None

Response parameters

Fn::GetAtt

- TransitRouterRouteTableId: the route table ID of the Enterprise Edition transit router.
- TransitRouterAttachmentId: the ID of the network instance connection.
- ResourceId: the ID of the resource.
- ResourceType: the type of the resource.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TransitRouterRouteTableId": {
      "Type": "String",
      "Description": "TransitRouterRouteTableId"
    },
    "TransitRouterAttachmentId": {
      "Type": "String",
      "Description": "TransitRouterAttachmentId"
    }
  },
  "Resources": {
    "CENTransitRouterRouteTablePropagation": {
      "Type": "ALIYUN::CEN::TransitRouterRouteTablePropagation",
      "Properties": {
        "TransitRouterRouteTableId": {
          "Ref": "TransitRouterRouteTableId"
        },
        "TransitRouterAttachmentId": {
          "Ref": "TransitRouterAttachmentId"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterRouteTableId": {
      "Description": "TransitRouterRouteTableId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTablePropagation",
          "TransitRouterRouteTableId"
        ]
      }
    },
    "TransitRouterAttachmentId": {
      "Description": "TransitRouterAttachmentId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTablePropagation",
          "TransitRouterAttachmentId"
        ]
      }
    },
    "ResourceId": {
      "Description": "ResourceId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTablePropagation",
          "ResourceId"
        ]
      }
    },
    "ResourceType": {
      "Description": "ResourceType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterRouteTablePropagation",
          "ResourceType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  TransitRouterAttachmentId:
    Description: TransitRouterAttachmentId
    Type: String
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Type: String
Resources:
  CENTransitRouterRouteTablePropagation:
    Properties:
      TransitRouterAttachmentId:
        Ref: TransitRouterAttachmentId
      TransitRouterRouteTableId:
        Ref: TransitRouterRouteTableId
    Type: ALIYUN::CEN::TransitRouterRouteTablePropagation
Outputs:
  ResourceId:
    Description: ResourceId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTablePropagation
      - ResourceId
  ResourceType:
    Description: ResourceType
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTablePropagation
      - ResourceType
  TransitRouterAttachmentId:
    Description: TransitRouterAttachmentId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTablePropagation
      - TransitRouterAttachmentId
  TransitRouterRouteTableId:
    Description: TransitRouterRouteTableId
    Value:
      Fn::GetAtt:
      - CENTransitRouterRouteTablePropagation
      - TransitRouterRouteTableId
```

14.16. ALIYUN::CEN::TransitRouterVbrAttachment

ALIYUN::CEN::TransitRouterVbrAttachment is used to create a virtual border router (VBR) connection from an Enterprise Edition transit router.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterVbrAttachment",
  "Properties": {
    "AutoPublishRouteEnabled": Boolean,
    "VbrOwnerId": Integer,
    "CenId": String,
    "TransitRouterAttachmentName": String,
    "VbrId": String,
    "TransitRouterAttachmentDescription": String,
    "TransitRouterId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
AutoPublishRoute Enabled	Boolean	No	Yes	Specifies whether to enable the Enterprise Edition transit router to automatically advertise routes to the VBR.	Default value: false. Valid values: • false: The Enterprise Edition transit router does not automatically advertise routes to the VBR. • true: The Enterprise Edition transit router automatically advertises routes to the VBR.
VbrOwnerId	Integer	No	No	The ID of the Alibaba Cloud account to which the VBR belongs.	None
CenId	String	No	No	The ID of the Cloud Enterprise Network (CEN) instance.	None
TransitRouterAttachmentName	String	No	Yes	The name of the VBR connection.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.
VbrId	String	Yes	No	The ID of the VBR.	None
TransitRouterAttachmentDescription	String	No	Yes	The description of the VBR connection.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
TransitRouterId	String	No	No	The ID of the Enterprise Edition transit router.	None

Response parameters

Fn::GetAtt

- TransitRouterAttachmentId: the ID of the VBR connection.
- AutoPublishRouteEnabled: indicates whether the Enterprise Edition transit router automatically advertises routes to the VBR.
- VbrOwnerId: the ID of the Alibaba Cloud account to which the VBR belongs.
- CenId: the ID of the CEN instance.
- TransitRouterAttachmentName: the name of the VBR connection.
- ResourceType: the type of the resource.
- VbrId: the ID of the VBR.
- ClientToken: the client token that is used to ensure the idempotence of the request.
- TransitRouterAttachmentDescription: the description of the VBR connection.
- TransitRouterId: the ID of the Enterprise Edition transit router.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AutoPublishRouteEnabled": {
      "Type": "Boolean",
      "Description": "AutoPublishRouteEnabled",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "VbrOwnerId": {
      "Type": "Number",
      "Description": "VbrOwnerId"
    },
```

```
    },
    "CenId": {
      "Type": "String",
      "Description": "CenId"
    },
    "TransitRouterAttachmentName": {
      "Type": "String",
      "Description": "TransitRouterAttachmentName"
    },
    "VbrId": {
      "Type": "String",
      "Description": "VbrId"
    },
    "TransitRouterAttachmentDescription": {
      "Type": "String",
      "Description": "TransitRouterAttachmentDescription"
    },
    "TransitRouterId": {
      "Type": "String",
      "Description": "TransitRouterId"
    }
  },
  "Resources": {
    "CENTransitRouterVbrAttachment": {
      "Type": "ALIYUN::CEN::TransitRouterVbrAttachment",
      "Properties": {
        "AutoPublishRouteEnabled": {
          "Ref": "AutoPublishRouteEnabled"
        },
        "VbrOwnerId": {
          "Ref": "VbrOwnerId"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "TransitRouterAttachmentName": {
          "Ref": "TransitRouterAttachmentName"
        },
        "VbrId": {
          "Ref": "VbrId"
        },
        "TransitRouterAttachmentDescription": {
          "Ref": "TransitRouterAttachmentDescription"
        },
        "TransitRouterId": {
          "Ref": "TransitRouterId"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterAttachmentId": {
      "Description": "The first ID of the resource",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "TransitRouterAttachmentId"
        ]
      }
    },
    "AutoPublishRouteEnabled": {
      "Description": "AutoPublishRouteEnabled",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "AutoPublishRouteEnabled"
        ]
      }
    },
    "VbrOwnerId": {
      "Description": "VbrOwnerId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "VbrOwnerId"
```

```
        ]
      }
    },
    "CenId": {
      "Description": "CenId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "CenId"
        ]
      }
    },
    "TransitRouterAttachmentName": {
      "Description": "TransitRouterAttachmentName",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "TransitRouterAttachmentName"
        ]
      }
    },
    "ResourceType": {
      "Description": "ResourceType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "ResourceType"
        ]
      }
    },
    "VbrId": {
      "Description": "VbrId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "VbrId"
        ]
      }
    },
    "ClientToken": {
      "Description": "ClientToken",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "ClientToken"
        ]
      }
    },
    "TransitRouterAttachmentDescription": {
      "Description": "TransitRouterAttachmentDescription",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "TransitRouterAttachmentDescription"
        ]
      }
    },
    "TransitRouterId": {
      "Description": "TransitRouterId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVbrAttachment",
          "TransitRouterId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
```

```
  AutoPublishRouteEnabled:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: AutoPublishRouteEnabled
    Type: Boolean
  CenId:
    Description: CenId
    Type: String
  TransitRouterAttachmentDescription:
    Description: TransitRouterAttachmentDescription
    Type: String
  TransitRouterAttachmentName:
    Description: TransitRouterAttachmentName
    Type: String
  TransitRouterId:
    Description: TransitRouterId
    Type: String
  VbrId:
    Description: VbrId
    Type: String
  VbrOwnerId:
    Description: VbrOwnerId
    Type: Number
Resources:
  CENTransitRouterVbrAttachment:
    Properties:
      AutoPublishRouteEnabled:
        Ref: AutoPublishRouteEnabled
      CenId:
        Ref: CenId
      TransitRouterAttachmentDescription:
        Ref: TransitRouterAttachmentDescription
      TransitRouterAttachmentName:
        Ref: TransitRouterAttachmentName
      TransitRouterId:
        Ref: TransitRouterId
      VbrId:
        Ref: VbrId
      VbrOwnerId:
        Ref: VbrOwnerId
    Type: ALIYUN::CEN::TransitRouterVbrAttachment
Outputs:
  AutoPublishRouteEnabled:
    Description: AutoPublishRouteEnabled
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - AutoPublishRouteEnabled
  CenId:
    Description: CenId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - CenId
  ClientToken:
    Description: ClientToken
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - ClientToken
  ResourceType:
    Description: ResourceType
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - ResourceType
  TransitRouterAttachmentDescription:
    Description: TransitRouterAttachmentDescription
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - TransitRouterAttachmentDescription
```

```
      - TransitRouterAttachmentDescription
  TransitRouterAttachmentId:
    Description: The first ID of the resource
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - TransitRouterAttachmentId
  TransitRouterAttachmentName:
    Description: TransitRouterAttachmentName
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - TransitRouterAttachmentName
  TransitRouterId:
    Description: TransitRouterId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - TransitRouterId
  VbrId:
    Description: VbrId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - VbrId
  VbrOwnerId:
    Description: VbrOwnerId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVbrAttachment
      - VbrOwnerId
```

14.17. ALIYUN::CEN::TransitRouterVpcAttachment

ALIYUN::CEN::TransitRouterVpcAttachment is used to connect a virtual private cloud (VPC) to an Enterprise Edition transit router.

Syntax

```
{
  "Type": "ALIYUN::CEN::TransitRouterVpcAttachment",
  "Properties": {
    "VpcId": String,
    "ChargeType": String,
    "CenId": String,
    "TransitRouterAttachmentName": String,
    "ZoneMappings": List,
    "VpcOwnerId": Integer,
    "TransitRouterAttachmentDescription": String,
    "TransitRouterId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the VPC.	None
ChargeType	String	No	No	The billing method of the VPC.	Default value: POSTPAY. A value of POSTPAY indicates the pay-as-you-go billing method.
CenId	String	No	No	The ID of the Cloud Enterprise Network (CEN) instance.	None
TransitRouterAttachmentName	String	No	Yes	The name of the VPC connection.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.

Property	Type	Required	Editable	Description	Constraint
ZoneMappings	List	Yes	No	The primary and secondary zones of the Enterprise Edition transit router. You must select a vSwitch in both the primary and secondary zones.	For more information, see ZoneMappings properties.
VpcOwnerId	Integer	No	No	The ID of the Alibaba Cloud account to which the VPC belongs.	The default value is the ID of the current logon account.
TransitRouterAttachmentDescription	String	No	Yes	The description of the VPC connection.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
TransitRouterId	String	No	No	The ID of the Enterprise Edition transit router.	None

ZoneMappings syntax

```
"ZoneMappings": [
  {
    "ZoneId": String,
    "VSwitchId": String
  }
]
```

ZoneMappings properties

Property	Type	Required	Editable	Description	Constraint
ZoneId	String	Yes	No	The IDs of the primary and secondary zones of the Enterprise Edition transit router.	You can call the DescribeZones operation to query the most recent zone list.
VSwitchId	String	Yes	No	The IDs of the vSwitches in the primary and secondary zones of the Enterprise Edition transit router.	None

Response parameters

Fn::GetAtt

- TransitRouterAttachmentId: the ID of the VPC connection.
- VpcId: the ID of the VPC.
- CenId: the ID of the CEN instance.
- TransitRouterAttachmentName: the name of the VPC connection.
- ResourceType: the type of the resource.
- ClientToken: the client token that is used to ensure the idempotence of the request.
- VpcOwnerId: the ID of the account to which the VPC belongs. The default value is the ID of the current logon account.
- TransitRouterAttachmentDescription: the description of the VPC connection.
- TransitRouterId: the ID of the Enterprise Edition transit router.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcId": {
      "Type": "String",
      "Description": "VpcId"
    },
    "ChargeType": {
      "Type": "String",
      "Description": ""
    },
    "CenId": {
      "Type": "String",
      "Description": "CenId"
    },
    "TransitRouterAttachmentName": {
      "Type": "String",
      "Description": "TransitRouterAttachmentName"
    },
    "ZoneMappings": {
      "Type": "Json",
      "Description": "ZoneMappingss",
      "MaxLength": 3
    },
    "VpcOwnerId": {
      "Type": "Number",
      "Description": "VpcOwnerId"
    },
    "TransitRouterAttachmentDescription": {
      "Type": "String",
      "Description": "TransitRouterAttachmentDescription"
    },
    "TransitRouterId": {
      "Type": "String",
      "Description": "TransitRouterId"
    }
  },
  "Resources": {
    "CENTransitRouterVpcAttachment": {
      "Type": "ALIYUN::CEN::TransitRouterVpcAttachment",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "TransitRouterAttachmentName": {
          "Ref": "TransitRouterAttachmentName"
        },
        "ZoneMappings": {
          "Ref": "ZoneMappings"
        },
        "VpcOwnerId": {
          "Ref": "VpcOwnerId"
        },
        "TransitRouterAttachmentDescription": {
          "Ref": "TransitRouterAttachmentDescription"
        },
        "TransitRouterId": {
          "Ref": "TransitRouterId"
        }
      }
    }
  },
  "Outputs": {
    "TransitRouterAttachmentId": {
      "Description": "The first ID of the resource",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
```

```
          "TransitRouterAttachmentId"
        ]
      }
    },
    "VpcId": {
      "Description": "VpcId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "VpcId"
        ]
      }
    },
    "CenId": {
      "Description": "CenId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "CenId"
        ]
      }
    },
    "TransitRouterAttachmentName": {
      "Description": "TransitRouterAttachmentName",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "TransitRouterAttachmentName"
        ]
      }
    },
    "ResourceType": {
      "Description": "ResourceType",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "ResourceType"
        ]
      }
    },
    "ClientToken": {
      "Description": "ClientToken",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "ClientToken"
        ]
      }
    },
    "VpcOwnerId": {
      "Description": "VpcOwnerId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "VpcOwnerId"
        ]
      }
    },
    "TransitRouterAttachmentDescription": {
      "Description": "TransitRouterAttachmentDescription",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "TransitRouterAttachmentDescription"
        ]
      }
    },
    "TransitRouterId": {
      "Description": "TransitRouterId",
      "Value": {
        "Fn::GetAtt": [
          "CENTransitRouterVpcAttachment",
          "TransitRouterId"
        ]
```

```
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CenId:
    Description: CenId
    Type: String
  ChargeType:
    Description: ''
    Type: String
  TransitRouterAttachmentDescription:
    Description: TransitRouterAttachmentDescription
    Type: String
  TransitRouterAttachmentName:
    Description: TransitRouterAttachmentName
    Type: String
  TransitRouterId:
    Description: TransitRouterId
    Type: String
  VpcId:
    Description: VpcId
    Type: String
  VpcOwnerId:
    Description: VpcOwnerId
    Type: Number
  ZoneMappings:
    Description: ZoneMappingss
    MaxLength: 3
    Type: Json
Resources:
  CENTransitRouterVpcAttachment:
    Properties:
      CenId:
        Ref: CenId
      ChargeType:
        Ref: ChargeType
      TransitRouterAttachmentDescription:
        Ref: TransitRouterAttachmentDescription
      TransitRouterAttachmentName:
        Ref: TransitRouterAttachmentName
      TransitRouterId:
        Ref: TransitRouterId
      VpcId:
        Ref: VpcId
      VpcOwnerId:
        Ref: VpcOwnerId
      ZoneMappings:
        Ref: ZoneMappings
    Type: ALIYUN::CEN::TransitRouterVpcAttachment
Outputs:
  CenId:
    Description: CenId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - CenId
  ClientToken:
    Description: ClientToken
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - ClientToken
  ResourceType:
    Description: ResourceType
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - ResourceType
  TransitRouterAttachmentDescription:
```

```
    Description: TransitRouterAttachmentDescription
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - TransitRouterAttachmentDescription
  TransitRouterAttachmentId:
    Description: The first ID of the resource
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - TransitRouterAttachmentId
  TransitRouterAttachmentName:
    Description: TransitRouterAttachmentName
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - TransitRouterAttachmentName
  TransitRouterId:
    Description: TransitRouterId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - TransitRouterId
  VpcId:
    Description: VpcId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - VpcId
  VpcOwnerId:
    Description: VpcOwnerId
    Value:
      Fn::GetAtt:
      - CENTransitRouterVpcAttachment
      - VpcOwnerId
```

15.ClickHouse

15.1. ALIYUN::ClickHouse::DBCluster

ALIYUN::ClickHouse::DBCluster is used to create an ApsaraDB for ClickHouse cluster.

Syntax

```
{
  "Type": "ALIYUN::ClickHouse::DBCluster",
  "Properties": {
    "DbNodeStorageType": String,
    "DBNodeStorage": Integer,
    "EncryptionType": String,
    "Category": String,
    "ZoneId": String,
    "VSwitchId": String,
    "DBClusterDescription": String,
    "Period": String,
    "EncryptionKey": String,
    "DBClusterNetworkType": String,
    "DBClusterType": String,
    "VpcId": String,
    "DBClusterVersion": String,
    "DBNodeCount": Integer,
    "UsedTime": String,
    "PaymentType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DbNodeStorageType	String	Yes	No	The storage type of the node.	Valid values: • cloud_essd: enhanced SSD (ESSD) • cloud_efficiency: ultra disk
DBNodeStorage	Integer	Yes	No	The storage capacity of the node.	Valid values: 100 to 10000. Unit: GB. This value must be in 100 GB increments.
EncryptionType	String	No	No	The type of the encryption.	Set the value to CloudDisk. This value indicates that encryption is enabled on disks.
Category	String	Yes	No	The edition of the cluster.	Valid values: • Basic: Basic Edition • HighAvailability: Cluster Edition
ZoneId	String	No	No	The zone ID of the cluster.	You can call the DescribeRegions operation to query the most recent zone list.
VSwitchId	String	No	No	The vSwitch ID of the cluster.	None
DBClusterDescription	String	No	No	The description of the cluster.	None

Property	Type	Required	Editable	Description	Constraint
Period	String	No	No	The billing cycle of the subscription cluster.	Valid values: • Year • Month Note This parameter must be specified when the PaymentType parameter is set to Prepaid.
EncryptionKey	String	No	No	The ID of the encryption key managed by Key Management Service (KMS).	None
DBClusterNetworkType	String	Yes	No	The network type of the cluster.	Set the value to VPC.
DBClusterType	String	Yes	No	The type of the cluster.	Valid values: • Common: common cluster • Readonly: secondary cluster • Guard: disaster recovery cluster
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	None
DBClusterVersion	String	Yes	No	The version of the cluster.	Set the value to 19.15.2.2.
DBNodeCount	Integer	Yes	No	The number of nodes.	Valid values: • Valid values for S series clusters: 1 to 48 • Valid values for C series clusters: 1 to 24
UsedTime	String	No	No	The subscription duration of the cluster.	Valid values: • Valid values when the Period parameter is set to Month: 1, 2, 3, 4, 5, 6, 7, 8, and 9. • Valid values when the Period parameter is set to Year: 1, 2, and 3.
PaymentType	String	Yes	No	The billing method of the cluster.	Valid values: • Postpaid: pay-as-you-go • Prepaid: subscription

Response parameters

Fn::GetAtt

- DBClusterId: the ID of the cluster.
- PublicPort: the public port.
- Bid: the business ID.
- LockReason: the reason why the cluster is locked.
- LockMode: the lock mode.
- DBClusterVersion: the version of the cluster.
- CommodityCode: the commodity code.
- VpcId: the ID of the VPC.
- Engine: the engine of the cluster.
- Category: the edition of the cluster.
- DBClusterType: the type of the cluster.
- DBClusterNetworkType: the network type of the cluster.

- EncryptionType: the encryption type.
- VpcCloudInstanceId: the ID of the cluster in the VPC.
- Port: the port number that is used to connect to the cluster.
- PaymentType: the payment method.
- DBNodeStorage: the storage capacity of the node.
- PublicConnectionString: the public connection string of the cluster.
- EngineVersion: the version of the engine.
- IsExpired: indicates whether the cluster has expired.
- VSwitchId: the ID of the vSwitch.
- Period: the billing cycle of the subscription cluster.
- StorageType: the storage type of the cluster.
- DBNodeCount: the number of nodes.
- AliUid: the ID of the Alibaba Cloud account.
- DBClusterDescription: the description of the cluster.
- ConnectionString: the connection string of the cluster.
- ZoneId: the ID of the zone.
- EncryptionKey: the ID of the encryption key managed by KMS.
- DbNodeStorageType: the storage type of the node.
- DBNodeClass: the type of the node.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DbNodeStorageType": {
      "Type": "String",
      "Description": "Instance node storage type. Valid values:  cloud_essd, cloud_efficiency."
    },
    "DBNodeStorage": {
      "Type": "Number",
      "Description": "DBNodeStorage"
    },
    "EncryptionType": {
      "Type": "String",
      "Description": "Kms key type, only cloud disk encryption is supported and the value is CloudDisk."
    },
    "Category": {
      "Type": "String",
      "Description": "Series, value: Basic: Basic version"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "ZoneId"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "VSwitchId"
    },
    "DBClusterDescription": {
      "Type": "String",
      "Description": "DBClusterDescription"
    },
    "Period": {
      "Type": "String",
      "Description": "Prepaid time period. If the payment type is Prepaid, this parameter is mandatory. Specify the prepaid clu
ster as a yearly or monthly type. Valid values:  Year, Month."
    },
    "EncryptionKey": {
      "Type": "String",
      "Description": "KMS key ID"
    },
    "DBClusterNetworkType": {
      "Type": "String",
      "Description": "Network type of the cluster instance, value: VPC"
    },
    "DBClusterType": {
```

```
    "DBClusterType": {
      "Type": "String",
      "Description": "Cluster instance type, value:  Common: normal instance;  Readonly: read-only instance; Guard: disaster re
covery instance"
    },
    "VpcId": {
      "Type": "String",
      "Description": "VpcId"
    },
    "DBClusterVersion": {
      "Type": "String",
      "Description": "Version, value:  19.15.2.2"
    },
    "DBNodeCount": {
      "Type": "Number",
      "Description": "Number of node groups"
    },
    "UsedTime": {
      "Type": "String",
      "Description": "When Period is Month, the value of UsedTime is [1-9].  When Period is Year, the value of UsedTime is [1-3
]"
    },
    "PaymentType": {
      "Type": "String",
      "Description": "PayType"
    }
  },
  "Resources": {
    "ClickHouseDBCluster": {
      "Type": "ALIYUN::ClickHouse::DBCluster",
      "Properties": {
        "DbNodeStorageType": {
          "Ref": "DbNodeStorageType"
        },
        "DBNodeStorage": {
          "Ref": "DBNodeStorage"
        },
        "EncryptionType": {
          "Ref": "EncryptionType"
        },
        "Category": {
          "Ref": "Category"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "DBClusterDescription": {
          "Ref": "DBClusterDescription"
        },
        "Period": {
          "Ref": "Period"
        },
        "EncryptionKey": {
          "Ref": "EncryptionKey"
        },
        "DBClusterNetworkType": {
          "Ref": "DBClusterNetworkType"
        },
        "DBClusterType": {
          "Ref": "DBClusterType"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "DBClusterVersion": {
          "Ref": "DBClusterVersion"
        },
        "DBNodeCount": {
          "Ref": "DBNodeCount"
        },
        "UsedTime": {
          "Ref": "UsedTime"
```

```
        },
        "PaymentType": {
          "Ref": "PaymentType"
        }
      }
    }
  },
  "Outputs": {
    "Category": {
      "Description": "Series, value: Basic: Basic version",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "Category"
        ]
      }
    },
    "Port": {
      "Description": "Connection port",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "Port"
        ]
      }
    },
    "DBClusterId": {
      "Description": "The id of DBCluster",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBClusterId"
        ]
      }
    },
    "EncryptionKey": {
      "Description": "KMS key ID",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "EncryptionKey"
        ]
      }
    },
    "DBClusterNetworkType": {
      "Description": "Network type of the cluster instance, value: VPC",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBClusterNetworkType"
        ]
      }
    },
    "DBClusterType": {
      "Description": "Cluster instance type, value:  Common: normal instance;  Readonly: read-only instance; Guard: disaster re
covery instance",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBClusterType"
        ]
      }
    },
    "DBClusterVersion": {
      "Description": "Version, value:  19.15.2.2",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBClusterVersion"
        ]
      }
    },
    "CommodityCode": {
      "Description": "Product Code",
```

```
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "CommodityCode"
        ]
      }
    },
    "DBNodeCount": {
      "Description": "Number of node groups",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBNodeCount"
        ]
      }
    },
    "PaymentType": {
      "Description": "PayType",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "PaymentType"
        ]
      }
    },
    "PublicConnectionString": {
      "Description": "Internet connection address",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "PublicConnectionString"
        ]
      }
    },
    "LockReason": {
      "Description": "Reason for lock",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "LockReason"
        ]
      }
    },
    "Bid": {
      "Description": "BusinessID",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "Bid"
        ]
      }
    },
    "Engine": {
      "Description": "Engine",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "Engine"
        ]
      }
    },
    "DBNodeStorage": {
      "Description": "DBNodeStorage",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBNodeStorage"
        ]
      }
    },
    "DbNodeStorageType": {
      "Description": "Instance node storage type. Valid values:  cloud_essd, cloud_efficiency.",
      "Value": {
        "Fn::GetAtt": [
```

```
          "ClickHouseDBCluster",
          "DbNodeStorageType"
        ]
      }
    },
    "IsExpired": {
      "Description": "IsExpired",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "IsExpired"
        ]
      }
    },
    "EncryptionType": {
      "Description": "Kms key type, only cloud disk encryption is supported and the value is CloudDisk.",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "EncryptionType"
        ]
      }
    },
    "EngineVersion": {
      "Description": "EngineVersion",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "EngineVersion"
        ]
      }
    },
    "StorageType": {
      "Description": "StorageType",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "StorageType"
        ]
      }
    },
    "ZoneId": {
      "Description": "ZoneId",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "ZoneId"
        ]
      }
    },
    "VSwitchId": {
      "Description": "VSwitchId",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "VSwitchId"
        ]
      }
    },
    "DBClusterDescription": {
      "Description": "DBClusterDescription",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBClusterDescription"
        ]
      }
    },
    "Period": {
      "Description": "Prepaid time period. If the payment type is Prepaid, this parameter is mandatory. Specify the prepaid clu
ster as a yearly or monthly type. Valid values:  Year, Month.",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
```

```
          "Period"
        ]
      }
    },
    "LockMode": {
      "Description": "LockMode",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "LockMode"
        ]
      }
    },
    "DBNodeClass": {
      "Description": "DBNodeClass",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "DBNodeClass"
        ]
      }
    },
    "VpcId": {
      "Description": "VpcId",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "VpcId"
        ]
      }
    },
    "VpcCloudInstanceId": {
      "Description": "VpcCloudInstanceId",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "VpcCloudInstanceId"
        ]
      }
    },
    "ConnectionString": {
      "Description": "ConnectionString",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "ConnectionString"
        ]
      }
    },
    "PublicPort": {
      "Description": "PublicPort",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "PublicPort"
        ]
      }
    },
    "AliUid": {
      "Description": "AliUid",
      "Value": {
        "Fn::GetAtt": [
          "ClickHouseDBCluster",
          "AliUid"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
```

```
  Category:
    Description: 'Series, value: Basic: Basic version'
    Type: String
  DBClusterDescription:
    Description: DBClusterDescription
    Type: String
  DBClusterNetworkType:
    Description: 'Network type of the cluster instance, value: VPC'
    Type: String
  DBClusterType:
    Description: 'Cluster instance type, value:  Common: normal instance;  Readonly:
      read-only instance; Guard: disaster recovery instance'
    Type: String
  DBClusterVersion:
    Description: 'Version, value:  19.15.2.2'
    Type: String
  DBNodeCount:
    Description: Number of node groups
    Type: Number
  DBNodeStorage:
    Description: DBNodeStorage
    Type: Number
  DbNodeStorageType:
    Description: 'Instance node storage type. Valid values:  cloud_essd, cloud_efficiency.'
    Type: String
  EncryptionKey:
    Description: KMS key ID
    Type: String
  EncryptionType:
    Description: Kms key type, only cloud disk encryption is supported and the value
      is CloudDisk.
    Type: String
  PaymentType:
    Description: PayType
    Type: String
  Period:
    Description: 'Prepaid time period. If the payment type is Prepaid, this parameter
      is mandatory. Specify the prepaid cluster as a yearly or monthly type. Valid
      values:  Year, Month.'
    Type: String
  UsedTime:
    Description: When Period is Month, the value of UsedTime is [1-9].  When Period
      is Year, the value of UsedTime is [1-3]
    Type: String
  VSwitchId:
    Description: VSwitchId
    Type: String
  VpcId:
    Description: VpcId
    Type: String
  ZoneId:
    Description: ZoneId
    Type: String
Resources:
  ClickHouseDBCluster:
    Properties:
      Category:
        Ref: Category
      DBClusterDescription:
        Ref: DBClusterDescription
      DBClusterNetworkType:
        Ref: DBClusterNetworkType
      DBClusterType:
        Ref: DBClusterType
      DBClusterVersion:
        Ref: DBClusterVersion
      DBNodeCount:
        Ref: DBNodeCount
      DBNodeStorage:
        Ref: DBNodeStorage
      DbNodeStorageType:
        Ref: DbNodeStorageType
      EncryptionKey:
        Ref: EncryptionKey
```

```
      EncryptionType:
        Ref: EncryptionType
      PaymentType:
        Ref: PaymentType
      Period:
        Ref: Period
      UsedTime:
        Ref: UsedTime
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::ClickHouse::DBCluster
Outputs:
  AliUid:
    Description: AliUid
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - AliUid
  Bid:
    Description: BusinessID
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - Bid
  Category:
    Description: 'Series, value: Basic: Basic version'
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - Category
  CommodityCode:
    Description: Product Code
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - CommodityCode
  ConnectionString:
    Description: ConnectionString
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - ConnectionString
  DBClusterDescription:
    Description: DBClusterDescription
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBClusterDescription
  DBClusterId:
    Description: The id of DBCluster
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBClusterId
  DBClusterNetworkType:
    Description: 'Network type of the cluster instance, value: VPC'
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBClusterNetworkType
  DBClusterType:
    Description: 'Cluster instance type, value:  Common: normal instance;  Readonly:
      read-only instance; Guard: disaster recovery instance'
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBClusterType
  DBClusterVersion:
    Description: 'Version, value:  19.15.2.2'
    Value:
```

```
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBClusterVersion
  DBNodeClass:
    Description: DBNodeClass
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBNodeClass
  DBNodeCount:
    Description: Number of node groups
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBNodeCount
  DBNodeStorage:
    Description: DBNodeStorage
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DBNodeStorage
  DbNodeStorageType:
    Description: 'Instance node storage type. Valid values:  cloud_essd, cloud_efficiency.'
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - DbNodeStorageType
  EncryptionKey:
    Description: KMS key ID
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - EncryptionKey
  EncryptionType:
    Description: Kms key type, only cloud disk encryption is supported and the value
      is CloudDisk.
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - EncryptionType
  Engine:
    Description: Engine
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - Engine
  EngineVersion:
    Description: EngineVersion
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - EngineVersion
  IsExpired:
    Description: IsExpired
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - IsExpired
  LockMode:
    Description: LockMode
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - LockMode
  LockReason:
    Description: Reason for lock
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - LockReason
  PaymentType:
    Description: PayType
    Value:
      Fn::GetAtt:
```

```
      - ClickHouseDBCluster
      - PaymentType
  Period:
    Description: 'Prepaid time period. If the payment type is Prepaid, this parameter
      is mandatory. Specify the prepaid cluster as a yearly or monthly type. Valid
      values:  Year, Month.'
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - Period
  Port:
    Description: Connection port
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - Port
  PublicConnectionString:
    Description: Internet connection address
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - PublicConnectionString
  PublicPort:
    Description: PublicPort
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - PublicPort
  StorageType:
    Description: StorageType
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - StorageType
  VSwitchId:
    Description: VSwitchId
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - VSwitchId
  VpcCloudInstanceId:
    Description: VpcCloudInstanceId
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - VpcCloudInstanceId
  VpcId:
    Description: VpcId
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - VpcId
  ZoneId:
    Description: ZoneId
    Value:
      Fn::GetAtt:
      - ClickHouseDBCluster
      - ZoneId
```

16.CLOUDFW

16.1. ALIYUN::CLOUDFW::AddressBook

ALIYUN::CLOUDFW::AddressBook is used to create access control address books. Access control address books include IP address books, Elastic Compute Service (ECS) tag address books, port address books, and domain address books.

Syntax

```
{
  "Type": "ALIYUN::CLOUDFW::AddressBook",
  "Properties": {
    "GroupType": String,
    "AutoAddTagEcs": Boolean,
    "Description": String,
    "TagRelation": String,
    "RegionId": String,
    "GroupName": String,
    "AddressList": String,
    "TagList": List
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
GroupType	String	Yes	No	The type of the address book.	Valid values: • IP: IP address book. • domain: domain address book. • port: port address book. • tag: ECS tag address book.
AutoAddTagEcs	Boolean	No	Yes	Specifies whether to add ECS public IP addresses to the address book automatically if they match specified tags.	Valid values: • true • false
Description	String	Yes	Yes	The description of the address book.	None.
TagRelation	String	No	Yes	The logical relation among multiple to-match ECS tags.	Valid values: • and: Only the ECS public IP addresses that match many of the specified tags can be added to the address book. • or: ECS public IP addresses that match any of the specified tags can be added to the address book.
RegionId	String	No	No	The region ID. Default value: cn-hangzhou.	Valid values: • cn-hangzhou • ap-southeast-1
GroupName	String	Yes	No	The name of the address book.	None.

Name	Type	Required	Editable	Description	Validity
AddressList	String	No	Yes	The address list of the address book. Separate multiple addresses with commas (,). Note If GroupType is set to IP, port, or domain, this parameter must be set.	• If GroupType is set to IP, fill in the address list with IP addresses. Examples: 10.10.XX.XX/32, 10.10.XX.XX/24. • If GroupType is set to port, fill in the address list with ports or port ranges. Examples: 80, 100/200. • If GroupType is set to domain, fill in the address list with domain names. Examples: demo1.aliyun.com, demo2.aliyun.com
TagList	List	No	Yes	The ECS tags to match.	None.

TagList syntax

```
"TagList": [
  {
    "TagKey": String,
    "TagValue": String
  }
]
```

TagList properties

Name	Type	Required	Editable	Description	Validity
TagKey	String	No	Yes	The key of the to-match ECS tag.	None.
TagValue	String	No	Yes	The value of the to-match ECS tag.	None.

Response parameters

Fn::GetAtt

GroupUuid: The unique ID of the address book returned.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AddressBook": {
      "Type": "ALIYUN::CLOUDFW::AddressBook",
      "Properties": {
        "GroupType": {
          "Ref": "GroupType"
        },
        "AutoAddTagEcs": {
          "Ref": "AutoAddTagEcs"
        },
        "Description": {
          "Ref": "Description"
        },
        "TagRelation": {
          "Ref": "TagRelation"
        },
```

```
        "RegionId": {
          "Ref": "RegionId"
        },
        "GroupName": {
          "Ref": "GroupName"
        },
        "AddressList": {
          "Ref": "AddressList"
        },
        "TagList": {
          "Ref": "TagList"
        }
      }
    }
  },
  "Parameters": {
    "GroupType": {
      "Type": "String",
      "Description": "Type the address book, the optional values: ip: IP Address Book. domain: domain name address book .port:
Port Address Book. tag: ECS label address book",
      "AllowedValues": [
        "domain",
        "ip",
        "port",
        "tag"
      ]
    },
    "AutoAddTagEcs": {
      "Default": false,
      "Type": "Boolean",
      "Description": "Whether to automatically add new ECS public network IP matching tags to the address book. Default to fals
e.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Description": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Address book description."
    },
    "TagRelation": {
      "Type": "String",
      "Description": "The relationship between the labels to be matched more ECS. and: the relationship between multiple labels
. and: that matches both ECS IP public network more tags will be added to the address book. or: a plurality of inter-labeled or
relationship, i.e., as long as a matching tag ECS public IP address book will be added.",
      "AllowedValues": [
        "and",
        "or"
      ]
    },
    "RegionId": {
      "Default": "cn-hangzhou",
      "Type": "String",
      "Description": "Region ID. Default to cn-hangzhou.",
      "AllowedValues": [
        "cn-hangzhou",
        "ap-southeast-1"
      ]
    },
    "GroupName": {
      "Type": "String",
      "Description": "Name Address book."
    },
    "AddressList": {
      "Type": "String",
      "Description": "Address list of the address book, between multiple addresses separated by commas.\nNote: When GroupType i
p, it must be set to port or domain.\nWhen GroupType as ip, address list, fill in the IP address. For example: 10.10.XX.XX/32,
10.10.XX.XX/24\nWhen GroupType for the port, the address list to fill in ports or port ranges. For example: 80, 100/200\nWhen G
roupType for the domain, the domain name to fill in the address list. For example: demo1.aliyun.com, demo2.aliyun.com"
    },
```

```
    "TagList": {
      "Type": "Json",
      "Description": "",
      "MaxLength": 100
    }
  },
  "Outputs": {
    "GroupUuid": {
      "Description": "After a successful return to the address book to add unique identification ID.",
      "Value": {
        "Fn::GetAtt": [
          "AddressBook",
          "GroupUuid"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AddressBook:
    Type: ALIYUN::CLOUDFW::AddressBook
    Properties:
      GroupType:
        Ref: GroupType
      AutoAddTagEcs:
        Ref: AutoAddTagEcs
      Description:
        Ref: Description
      TagRelation:
        Ref: TagRelation
      RegionId:
        Ref: RegionId
      GroupName:
        Ref: GroupName
      AddressList:
        Ref: AddressList
      TagList:
        Ref: TagList
Parameters:
  GroupType:
    Type: String
    Description: 'Type the address book, the optional values: ip: IP Address Book.
      domain: domain name address book .port: Port Address Book. tag: ECS label address
      book'
    AllowedValues:
    - domain
    - ip
    - port
    - tag
  AutoAddTagEcs:
    Default: false
    Type: Boolean
    Description: Whether to automatically add new ECS public network IP matching tags
      to the address book. Default to false.
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
  Description:
    MinLength: 1
    Type: String
    Description: Address book description.
  TagRelation:
    Type: String
    Description: 'The relationship between the labels to be matched more ECS. and:
      the relationship between multiple labels. and: that matches both ECS IP public
      network more tags will be added to the address book. or: a plurality of inter-labeled
      or relationship, i.e., as long as a matching tag ECS public IP address book
      will be added.'
```

```
    AllowedValues:
    - and
    - or
  RegionId:
    Default: cn-hangzhou
    Type: String
    Description: Region ID. Default to cn-hangzhou.
    AllowedValues:
    - cn-hangzhou
    - ap-southeast-1
  GroupName:
    Type: String
    Description: Name Address book.
  AddressList:
    Type: String
    Description: |-
      Address list of the address book, between multiple addresses separated by commas.
      Note: When GroupType ip, it must be set to port or domain.
      When GroupType as ip, address list, fill in the IP address. For example: 10.10.XX.XX/32, 10.10.XX.XX/24
      When GroupType for the port, the address list to fill in ports or port ranges. For example: 80, 100/200
      When GroupType for the domain, the domain name to fill in the address list. For example: demo1.aliyun.com, demo2.aliyun.c
om
  TagList:
    Type: Json
    Description: ''
    MaxLength: 100
Outputs:
  GroupUuid:
    Description: After a successful return to the address book to add unique identification
      ID.
    Value:
      Fn::GetAtt:
      - AddressBook
      - GroupUuid
```

16.2. ALIYUN::CLOUDFW::ControlPolicy

ALIYUN::CLOUDFW::ControlPolicy is used to add access control policies.

Syntax

```
{
  "Type": "ALIYUN::CLOUDFW::ControlPolicy",
  "Properties": {
    "ApplicationName": String,
    "DestPortType": String,
    "Direction": String,
    "Destination": String,
    "Description": String,
    "Proto": String,
    "AclAction": String,
    "Source": String,
    "SourceType": String,
    "DestinationType": String,
    "NewOrder": Integer,
    "DestPort": String,
    "RegionId": String,
    "DestPortGroup": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ApplicationName	String	Yes	Yes	The type of applications to which the access control policy is applied.	Valid values: ANY, HTTP, HTTPS, MySQL, SMTP, SMTPS, RDP, VNC, SSH, Redis, MQTT, MongoDB, Memcache, and SSL. **Note** ANY indicates that the policy applies to all types of applications.
DestPort	String	No	Yes	The destination port of traffic to define in the access control policy.	If DestPortType is set to port, this parameter is required.
DestPortType	String	No	Yes	The destination port type to define in the access control policy.	Valid values: • port: port • group: port address book
DestPortGroup	String	No	Yes	The name of the destination port address book to define in the access control policy.	If DestPortType is set to group, this parameter is required.
Direction	String	Yes	No	The traffic direction to define in the access control policy.	Valid values: • in: inbound traffic • out: outbound traffic
Description	String	Yes	Yes	The description of the access control policy.	None.

Property	Type	Required	Editable	Description	Constraint
Destination	String	Yes	Yes	The destination address to define in the access control policy.	• If DestinationType is set to net, the Destination parameter specifies the destination CIDR block. Example: 10.10.XX.XX/24. • If DestinationType is set to group, the Destination parameter specifies the name of the destination address book. Example: db_group. • If DestinationType is set to domain, the Destination parameter specifies the destination domain name. Example: *.example.com. • If DestinationType is set to location, the Destination parameter specifies the destination region. Example: `["BJ11", "ZB"]`. For more information about region codes that the Destination parameter supports, see Region codes.
Proto	String	Yes	Yes	The type of security protocol to define in the access control policy. If you cannot determine the specific protocol type, you can set this parameter to ANY.	Valid values: • ANY • TCP • UDP • ICMP
AclAction	String	Yes	Yes	The action that Cloud Firewall performs on the traffic.	Valid values: • accept: allows the traffic. • drop: denies the traffic. • log: monitors the traffic.

Property	Type	Required	Editable	Description	Constraint
Source	String	Yes	Yes	The source address to define in the access control policy.	• If SourceType is set to net, the Source parameter specifies the source CIDR block. Example: 10.10.XX.XX/24. • If SourceType is set to group, the Source parameter specifies the name of the source address book. Example: db_group. • If SourceType is set to location, the Source parameter specifies the source region. Example: `["BJ11", "ZB"]`. For more information about region codes that the Source parameter supports, see Region codes.
SourceType	String	Yes	Yes	The type of source address to define in the access control policy.	Valid values: • net: source CIDR block • group: source address book • location: source region
DestinationType	String	Yes	Yes	The type of destination address to define in the access control policy.	Valid values: • net: destination CIDR block • group: destination address book • domain: destination domain name • location: destination region
NewOrder	Integer	Yes	Yes	The priority of the access control policy.	The priority value increases starting from 1. A smaller value indicates a higher priority. **Notice** A value of 1 indicates the highest priority and a value of -1 indicates the lowest priority.
RegionId	String	No	No	The region ID of the access control policy. Default value: cn-hangzhou.	Valid values: • cn-hangzhou • ap-southeast-1

Region codes

Codes of administrative regions in China and codes of regions outside China

Region	Code
China	ZD
Outside China	ZB

Codes of administrative regions in China

Region	Code
Beijing	BJ11
Tianjin	TJ12
Hebei Province	HB13
Shanxi Province	SX14
Liaoning Province	LN21
Jilin Province	JL22
Shanghai	SH31
Jiangsu Province	JS32
Zhejiang Province	ZJ33
Anhui Province	AH34
Fujian Province	FJ35
Jiangxi Province	JX36
Shandong Province	SD37
Henan Province	HN41
Hubei Province	HB42
Hunan Province	HN43
Guangdong Province	GD44
Hainan Province	HN46
Chongqing	CQ50
Sichuan Province	SC51
Guizhou Province	GZ52
Yunnan Province	YN53
Shaanxi Province	SX61
Gansu Province	GS62
Qinghai Province	QH63
Heilongjiang Province	HLJ23
Xizang	XZ54
Guangxi	GX45
Nei Mongol	NMG15
Ningxia	NX64
Xinjiang	XJ65

Region	Code
Taiwan	TW
Hong Kong S.A.R.	HK
Macao S.A.R.	MO

Codes of regions outside China

Region	Code
Asia (except China)	ZC
Europe	EU
Africa	AF
North America	NA
South America	LA
Oceania	OA
Antarctica	AQ

Response parameters

Fn::GetAtt

AclUuid: the unique ID of the access control policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ControlPolicy": {
      "Type": "ALIYUN::CLOUDFW::ControlPolicy",
      "Properties": {
        "ApplicationName": {
          "Ref": "ApplicationName"
        },
        "DestPortType": {
          "Ref": "DestPortType"
        },
        "Direction": {
          "Ref": "Direction"
        },
        "AclAction": {
          "Ref": "AclAction"
        },
        "Description": {
          "Ref": "Description"
        },
        "Proto": {
          "Ref": "Proto"
        },
        "Destination": {
          "Ref": "Destination"
        },
        "Source": {
          "Ref": "Source"
        },
        "DestinationType": {
          "Ref": "DestinationType"
        },
        "NewOrder": {
          "Ref": "NewOrder"
        },
        "DestPortGroup": {
          "Ref": "DestPortGroup"
        }
```

```
        },
        "DestPort": {
          "Ref": "DestPort"
        },
        "RegionId": {
          "Ref": "RegionId"
        },
        "SourceType": {
          "Ref": "SourceType"
        }
      }
    }
  },
  "Parameters": {
    "ApplicationName": {
      "Type": "String",
      "Description": "Application types supported by the security policy. The following types of applications are supported: AN
Y, HTTP, HTTPS, MySQL, SMTP, SMTPS, RDP, VNC, SSH, Redis, MQTT, MongoDB, Memcache, SSL. NOTE ANY indicates that the policy is a
pplied to all types of applications.",
      "AllowedValues": [
        "ANY",
        "HTTP",
        "HTTPS",
        "MQTT",
        "Memcache",
        "MongoDB",
        "MySQL",
        "RDP",
        "Redis",
        "SMTP",
        "SMTPS",
        "SSH",
        "SSL",
        "VNC"
      ]
    },
    "DestPortType": {
      "Type": "String",
      "Description": "Security access control policy access destination port traffic type. port: Port group: port address book"
,
      "AllowedValues": [
        "group",
        "port"
      ]
    },
    "Direction": {
      "Type": "String",
      "Description": "Security access control traffic direction policies. in: internal and external traffic access control. out
: within the flow of external access control",
      "AllowedValues": [
        "in",
        "out"
      ]
    },
    "AclAction": {
      "Type": "String",
      "Description": "Traffic access control policy set by the cloud of a firewall. accept: Release. drop: rejected. log: Obser
vation",
      "AllowedValues": [
        "accept",
        "drop",
        "log"
      ]
    },
    "Description": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Security access control policy description information."
    },
    "Proto": {
      "Type": "String",
      "Description": "The type of security protocol for traffic access in the security access control policy. Can be set to ANY
when you are not sure of the specific protocol type. Allowed values: ANY, TCP, UDP, ICMP",
      "AllowedValues": [
        "ANY",
```

```
        "ICMP",
        "TCP",
        "UDP"
      ]
    },
    "Destination": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Security Access Control destination address policy. When DestinationType is net, Destination purpose CIDR
. For example: 1.2.3.4/24. When DestinationType as a group, Destination for the purpose of the address book name. For example:
db_group. When DestinationType for the domain, Destination for the purpose of a domain name. For example:. * example.com. When
DestinationType as location, Destination area for the purpose (see below position encoding specific regions). For example: [ \"
BJ11\", \"ZB\"]"
    },
    "Source": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Security access control source address policy. When SourceType for the net, Source is the source CIDR. Fo
r example: 1.2.3.0/24. When SourceType as a group, Source name for the source address book. For example: db_group. When SourceT
ype as location, Source source region (specific region position encoder see below). For example, [ \"BJ11\", \"ZB\"]"
    },
    "DestinationType": {
      "Type": "String",
      "Description": "Security Access Control destination address type of policy. net: Destination network segment (CIDR). grou
p: destination address book. domain: The purpose domain. location: The purpose area",
      "AllowedValues": [
        "domain",
        "group",
        "location",
        "net"
      ]
    },
    "NewOrder": {
      "Type": "Number",
      "Description": "Security access control priority policy in force. Priority number increments sequentially from 1, lower t
he priority number, the higher the priority. Description -1 indicates the lowest priority.",
      "MinValue": -1
    },
    "DestPortGroup": {
      "Type": "String",
      "Description": "Security access control policy access traffic destination port address book name. Description DestPortTyp
e is group, set the item."
    },
    "DestPort": {
      "Type": "String",
      "Description": "Security access control policy access traffic destination port. Note When DestPortType to port, set the i
tem."
    },
    "RegionId": {
      "Default": "cn-hangzhou",
      "Type": "String",
      "Description": "Region ID. Default to cn-hangzhou.",
      "AllowedValues": [
        "cn-hangzhou",
        "ap-southeast-1"
      ]
    },
    "SourceType": {
      "Type": "String",
      "Description": "Security access control source address type of policy. net: Source segment (CIDR). group: source address
book. location: the source area",
      "AllowedValues": [
        "group",
        "location",
        "net"
      ]
    }
  },
  "Outputs": {
    "AclUuid": {
      "Description": "Security access control ID that uniquely identifies the policy.",
      "Value": {
        "Fn::GetAtt": [
          "ControlPolicy",
```

```
          "AclUuid"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  ControlPolicy:
    Type: ALIYUN::CLOUDFW::ControlPolicy
    Properties:
      ApplicationName:
        Ref: ApplicationName
      DestPortType:
        Ref: DestPortType
      Direction:
        Ref: Direction
      AclAction:
        Ref: AclAction
      Description:
        Ref: Description
      Proto:
        Ref: Proto
      Destination:
        Ref: Destination
      Source:
        Ref: Source
      DestinationType:
        Ref: DestinationType
      NewOrder:
        Ref: NewOrder
      DestPortGroup:
        Ref: DestPortGroup
      DestPort:
        Ref: DestPort
      RegionId:
        Ref: RegionId
      SourceType:
        Ref: SourceType
Parameters:
  ApplicationName:
    Type: String
    Description: 'Application types supported by the security policy. The following
      types of applications are supported: ANY, HTTP, HTTPS, MySQL, SMTP, SMTPS, RDP,
      VNC, SSH, Redis, MQTT, MongoDB, Memcache, SSL. NOTE ANY indicates that the policy
      is applied to all types of applications.'
    AllowedValues:
    - ANY
    - HTTP
    - HTTPS
    - MQTT
    - Memcache
    - MongoDB
    - MySQL
    - RDP
    - Redis
    - SMTP
    - SMTPS
    - SSH
    - SSL
    - VNC
  DestPortType:
    Type: String
    Description: 'Security access control policy access destination port traffic type.
      port: Port group: port address book'
    AllowedValues:
    - group
    - port
  Direction:
    Type: String
    Description: 'Security access control traffic direction policies. in: internal
```

```
    Description: 'Security access control traffic direction policies. in: internal
      and external traffic access control. out: within the flow of external access
      control'
    AllowedValues:
    - in
    - out
  AclAction:
    Type: String
    Description: 'Traffic access control policy set by the cloud of a firewall. accept:
      Release. drop: rejected. log: Observation'
    AllowedValues:
    - accept
    - drop
    - log
  Description:
    MinLength: 1
    Type: String
    Description: Security access control policy description information.
  Proto:
    Type: String
    Description: 'The type of security protocol for traffic access in the security
      access control policy. Can be set to ANY when you are not sure of the specific
      protocol type. Allowed values: ANY, TCP, UDP, ICMP'
    AllowedValues:
    - ANY
    - ICMP
    - TCP
    - UDP
  Destination:
    MinLength: 1
    Type: String
    Description: 'Security Access Control destination address policy. When DestinationType
      is net, Destination purpose CIDR. For example: 1.2.3.4/24. When DestinationType
      as a group, Destination for the purpose of the address book name. For example:
      db_group. When DestinationType for the domain, Destination for the purpose of
      a domain name. For example:. * example.com. When DestinationType as location,
      Destination area for the purpose (see below position encoding specific regions).
      For example: [ "BJ11", "ZB"]'
  Source:
    MinLength: 1
    Type: String
    Description: 'Security access control source address policy. When SourceType for
      the net, Source is the source CIDR. For example: 1.2.3.0/24. When SourceType
      as a group, Source name for the source address book. For example: db_group.
      When SourceType as location, Source source region (specific region position
      encoder see below). For example, [ "BJ11", "ZB"]'
  DestinationType:
    Type: String
    Description: 'Security Access Control destination address type of policy. net:
      Destination network segment (CIDR). group: destination address book. domain:
      The purpose domain. location: The purpose area'
    AllowedValues:
    - domain
    - group
    - location
    - net
  NewOrder:
    Type: Number
    Description: Security access control priority policy in force. Priority number
      increments sequentially from 1, lower the priority number, the higher the priority.
      Description -1 indicates the lowest priority.
    MinValue: -1
  DestPortGroup:
    Type: String
    Description: Security access control policy access traffic destination port address
      book name. Description DestPortType is group, set the item.
  DestPort:
    Type: String
    Description: Security access control policy access traffic destination port. Note
      When DestPortType to port, set the item.
  RegionId:
    Default: cn-hangzhou
    Type: String
    Description: Region ID. Default to cn-hangzhou.
    AllowedValues:
```

```
    - cn-hangzhou
    - ap-southeast-1
  SourceType:
    Type: String
    Description: 'Security access control source address type of policy. net: Source
      segment (CIDR). group: source address book. location: the source area'
    AllowedValues:
    - group
    - location
    - net
Outputs:
  AclUuid:
    Description: Security access control ID that uniquely identifies the policy.
    Value:
      Fn::GetAtt:
      - ControlPolicy
      - AclUuid
```

16.3. ALIYUN::CLOUDFW::VpcFirewallControlPolicy

ALIYUN::CLOUDFW::VpcFirewallControlPolicy is used to add an access control policy to a specified policy group for a Virtual Private Cloud (VPC) firewall.

Syntax

```
{
  "Type": "ALIYUN::CLOUDFW::VpcFirewallControlPolicy",
  "Properties": {
    "Destination": String,
    "ApplicationName": String,
    "Description": String,
    "SourceType": String,
    "DestPort": String,
    "AclAction": String,
    "Lang": String,
    "DestinationType": String,
    "VpcFirewallId": String,
    "Source": String,
    "DestPortType": String,
    "Proto": String,
    "RegionId": String,
    "NewOrder": String,
    "DestPortGroup": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Destination	String	Yes	Yes	The destination address defined in the access control policy.	Valid values: • If the DestinationType parameter is set to net, the value of this parameter is the destination CIDR block. Example: 10.2.3.0/24. • If the DestinationType parameter is set to group, the value of this parameter is the destination address book. Example: db_group. • If the DestinationType parameter is set to domain, the value of this parameter is the destination domain name. Example: *.aliyuncs.com.

Property	Type	Required	Editable	Description	Constraint
ApplicationName	String	Yes	Yes	The type of the application that the access control policy supports.	Valid values: • FTP • HTTP • HTTPS • MySQL • SMTP • SMTPS • RDP • VNC • SSH • Redis • MQTT • MongoDB • Memcache • SSL • ANY: All application types are supported.
Description	String	Yes	Yes	The description of the access control policy.	None
SourceType	String	Yes	Yes	The type of the source address defined in the access control policy.	Valid values: • net: source CIDR block • group: source address book
DestPort	String	No	Yes	The destination port defined in the access control policy.	This parameter is required when the DestPortType parameter is set to port.
AclAction	String	Yes	Yes	The action that the VPC firewall performs on the traffic.	Valid values: • accept: allows the traffic. • drop: denies the traffic. • log: monitors the traffic.
Lang	String	No	Yes	The natural language of the request and response.	Valid values: • zh: Chinese • en: English
DestinationType	String	Yes	Yes	The type of the destination address defined in the access control policy.	Valid values: • net: destination CIDR block • group: destination address book • domain: destination domain name
VpcFirewallId	String	Yes	No	The ID of the policy group to which you want to add the access control policy.	Valid values: • If the VPC firewall is used to protect Cloud Enterprise Network (CEN), the value of this parameter is the ID of a CEN instance. Example: cen-ervw5jbw1234*****. • If the VPC firewall is used to protect Express Connect, the value of this parameter is the ID of the VPC firewall. Example: vfw-a42bbb748c91234*****. You can call the DescribeVpcFirewallAclGroupList operation to obtain the ID of the policy group to which you want to add the access control policy.

Property	Type	Required	Editable	Description	Constraint
Source	String	Yes	Yes	The source address defined in the access control policy.	Valid values: • If the SourceType parameter is set to net, the value of this parameter is the source CIDR block. Example: 10.2.3.0/24. • If the SourceType parameter is set to group, the value of this parameter is the source address book. Example: db_group.
DestPortType	String	No	Yes	The type of the destination port defined in the access control policy.	Valid values: • port: port • group: port address book
Proto	String	Yes	No	The type of the security protocol defined in the access control policy.	Valid values: • ANY (If you are not sure about the protocol type, you can set this parameter to ANY.) • TCP • UDP • ICMP
RegionId	String	No	No	The ID of the region.	Default value: cn-hangzhou. Valid values: • cn-hangzhou: China (Hangzhou) • ap-southeast-1: Singapore (Singapore)
NewOrder	String	Yes	No	The priority of the access control policy.	The priority value starts from 1. A smaller value indicates a higher priority. A value of 1 indicates the highest priority. **Note** A value of -1 indicates the lowest priority.
DestPortGroup	String	No	Yes	The name of the destination port address book defined in the access control policy.	This parameter is required when the DestPortType parameter is set to group.

Response parameters

Fn::GetAtt

AclUuid: the unique ID of the access control policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Destination": {
      "Type": "String",
      "Description": "The destination address in the access control policy.\nSet this parameter in the following way:\nIf the D
estinationType parameter is set to net, set the value to a Classless Inter-Domain Routing (CIDR) block.\nExample: 10.2.3.0/24.\
nIf the DestinationType parameter is set to group, set the value to the name of an address book.\nExample: db_group.\nIf the De
stinationType parameter is set to domain, set the value to a domain name.\nExample: *.aliyuncs.com."
    },
    "ApplicationName": {
      "Type": "String",
      "Description": "The application type that the access control policy supports.\nValid values: \nANY (indicates that all ap
plication types are supported) \nFTP \nHTTP \nHTTPS \nMySQL \nSMTP \nSMTPS \nRDP \nVNC \nSSH \nRedis \nMQTT \nMongoDB \nMemcach
e \nSSL"
```

```
e \nSSL",
      "AllowedValues": [
        "ANY",
        "FTP",
        "HTTP",
        "HTTPS",
        "MySQL",
        "SMTP",
        "SMTPS",
        "RDP",
        "VNC",
        "SSH",
        "Redis",
        "MQTT",
        "MongoDB",
        "Memcache",
        "SSL"
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the access control policy."
    },
    "SourceType": {
      "Type": "String",
      "Description": "The type of the source address in the access control policy. Valid values:\nnet: CIDR block\ngroup: addre
ss book",
      "AllowedValues": [
        "group",
        "net"
      ]
    },
    "DestPort": {
      "Type": "String",
      "Description": "The destination port in the access control policy.\nNote This parameter must be specified if the DestPort
Type parameter is set to port."
    },
    "AclAction": {
      "Type": "String",
      "Description": "The action that Cloud Firewall performs on the traffic. Valid values:\naccept: allows the traffic.\ndrop:
denies the traffic.\nlog: monitors the traffic.",
      "AllowedValues": [
        "accept",
        "drop",
        "log"
      ]
    },
    "Lang": {
      "Type": "String",
      "Description": "The natural language of the request and response. Valid values:\nzh: Chinese\nen: English",
      "AllowedValues": [
        "en",
        "zh"
      ]
    },
    "DestinationType": {
      "Type": "String",
      "Description": "The type of the destination address in the access control policy. Valid values:\nnet: CIDR block\ngroup:
address book\ndomain: domain name",
      "AllowedValues": [
        "domain",
        "group",
        "net"
      ]
    },
    "VpcFirewallId": {
      "Type": "String",
      "Description": "The ID of the policy group to which you want to add the access control policy.\nIf the VPC firewall is us
ed to protect CEN, set the value to the ID of the CEN instance\nthat the VPC firewall protects. Example: cen-ervw5jbwl234*****.
\nIf the VPC firewall is used to protect Express Connect, set the value to the ID of\nthe VPC firewall instance. Example: vfw-a
42bbb748c91234*****.\nNote You can call the DescribeVpcFirewallAclGroupList operation to query the ID of the policy group."
    },
    "Source": {
      "Type": "String",
      "Description": "The source address in the access control policy.\nIf the SourceType parameter is set to net, set the valu
```

```
e to a CIDR block. Example: 10.2.3.0/24.\nIf the SourceType parameter is set to group, set the value to the name of an address
book. Example: db_group."
    },
    "DestPortType": {
      "Type": "String",
      "Description": "The type of the destination port in the access control policy. Valid values:\nport: port\ngroup: address
book",
      "AllowedValues": [
        "group",
        "port"
      ]
    },
    "Proto": {
      "Type": "String",
      "Description": "The type of the security protocol in the access control policy.",
      "AllowedValues": [
        "ANY",
        "TCP",
        "UDP",
        "ICMP"
      ]
    },
    "RegionId": {
      "Type": "String",
      "Description": "Region ID. Default to cn-hangzhou.",
      "AllowedValues": [
        "cn-hangzhou",
        "ap-southeast-1"
      ],
      "Default": "cn-hangzhou"
    },
    "NewOrder": {
      "Type": "String",
      "Description": "The priority of the access control policy.\nThe priority value starts from 1. A smaller priority value in
dicates a higher priority.\nNote The value of -1 indicates the lowest priority."
    },
    "DestPortGroup": {
      "Type": "String",
      "Description": "The address book of destination ports in the access control policy.\nNote This parameter must be specifie
d if the DestPortType parameter is set to group."
    }
  },
  "Resources": {
    "VpcFirewallControlPolicy": {
      "Type": "ALIYUN::CLOUDFW::VpcFirewallControlPolicy",
      "Properties": {
        "Destination": {
          "Ref": "Destination"
        },
        "ApplicationName": {
          "Ref": "ApplicationName"
        },
        "Description": {
          "Ref": "Description"
        },
        "SourceType": {
          "Ref": "SourceType"
        },
        "DestPort": {
          "Ref": "DestPort"
        },
        "AclAction": {
          "Ref": "AclAction"
        },
        "Lang": {
          "Ref": "Lang"
        },
        "DestinationType": {
          "Ref": "DestinationType"
        },
        "VpcFirewallId": {
          "Ref": "VpcFirewallId"
        },
        "Source": {
```

```
          "Ref": "Source"
        },
        "DestPortType": {
          "Ref": "DestPortType"
        },
        "Proto": {
          "Ref": "Proto"
        },
        "RegionId": {
          "Ref": "RegionId"
        },
        "NewOrder": {
          "Ref": "NewOrder"
        },
        "DestPortGroup": {
          "Ref": "DestPortGroup"
        }
      }
    }
  },
  "Outputs": {
    "AclUuid": {
      "Description": "The unique ID of the access control policy.",
      "Value": {
        "Fn::GetAtt": [
          "VpcFirewallControlPolicy",
          "AclUuid"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AclAction:
    AllowedValues:
    - accept
    - drop
    - log
    Description: 'The action that Cloud Firewall performs on the traffic. Valid values:
      accept: allows the traffic.
      drop: denies the traffic.
      log: monitors the traffic.'
    Type: String
  ApplicationName:
    AllowedValues:
    - ANY
    - FTP
    - HTTP
    - HTTPS
    - MySQL
    - SMTP
    - SMTPS
    - RDP
    - VNC
    - SSH
    - Redis
    - MQTT
    - MongoDB
    - Memcache
    - SSL
    Description: "The application type that the access control policy supports.\n\
      Valid values: \nANY (indicates that all application types are supported) \n\
      FTP \nHTTP \nHTTPS \nMySQL \nSMTP \nSMTPS \nRDP \nVNC \nSSH \nRedis \nMQTT \n\
      MongoDB \nMemcache \nSSL"
    Type: String
  Description:
    Description: The description of the access control policy.
    Type: String
  DestPort:
```

```
    Description: 'The destination port in the access control policy.
      Note This parameter must be specified if the DestPortType parameter is set to
      port.'
    Type: String
  DestPortGroup:
    Description: 'The address book of destination ports in the access control policy.
      Note This parameter must be specified if the DestPortType parameter is set to
      group.'
    Type: String
  DestPortType:
    AllowedValues:
    - group
    - port
    Description: 'The type of the destination port in the access control policy. Valid
      values:
      port: port
      group: address book'
    Type: String
  Destination:
    Description: 'The destination address in the access control policy.
      Set this parameter in the following way:
      If the DestinationType parameter is set to net, set the value to a Classless
      Inter-Domain Routing (CIDR) block.
      Example: 10.2.3.0/24.
      If the DestinationType parameter is set to group, set the value to the name
      of an address book.
      Example: db_group.
      If the DestinationType parameter is set to domain, set the value to a domain
      name.
      Example: *.aliyuncs.com.'
    Type: String
  DestinationType:
    AllowedValues:
    - domain
    - group
    - net
    Description: 'The type of the destination address in the access control policy.
      Valid values:
      net: CIDR block
      group: address book
      domain: domain name'
    Type: String
  Lang:
    AllowedValues:
    - en
    - zh
    Description: 'The natural language of the request and response. Valid values:
      zh: Chinese
      en: English'
    Type: String
  NewOrder:
    Description: 'The priority of the access control policy.
      The priority value starts from 1. A smaller priority value indicates a higher
      priority.
      Note The value of -1 indicates the lowest priority.'
    Type: String
  Proto:
    AllowedValues:
    - ANY
    - TCP
    - UDP
    - ICMP
    Description: The type of the security protocol in the access control policy.
    Type: String
  RegionId:
    AllowedValues:
    - cn-hangzhou
    - ap-southeast-1
    Default: cn-hangzhou
    Description: Region ID. Default to cn-hangzhou.
    Type: String
  Source:
    Description: 'The source address in the access control policy.
      If the SourceType parameter is set to net, set the value to a CIDR block. Example:
      10.2.3.0/24
```

```
      10.2.3.0/24.
      If the SourceType parameter is set to group, set the value to the name of an
      address book. Example: db_group.'
    Type: String
  SourceType:
    AllowedValues:
    - group
    - net
    Description: 'The type of the source address in the access control policy. Valid
      values:
      net: CIDR block
      group: address book'
    Type: String
  VpcFirewallId:
    Description: 'The ID of the policy group to which you want to add the access control
      policy.
      If the VPC firewall is used to protect CEN, set the value to the ID of the CEN
      instance
      that the VPC firewall protects. Example: cen-ervw5jbw1234*****.
      If the VPC firewall is used to protect Express Connect, set the value to the
      ID of
      the VPC firewall instance. Example: vfw-a42bbb748c91234*****.
      Note You can call the DescribeVpcFirewallAclGroupList operation to query the
      ID of the policy group.'
    Type: String
Resources:
  VpcFirewallControlPolicy:
    Properties:
      AclAction:
        Ref: AclAction
      ApplicationName:
        Ref: ApplicationName
      Description:
        Ref: Description
      DestPort:
        Ref: DestPort
      DestPortGroup:
        Ref: DestPortGroup
      DestPortType:
        Ref: DestPortType
      Destination:
        Ref: Destination
      DestinationType:
        Ref: DestinationType
      Lang:
        Ref: Lang
      NewOrder:
        Ref: NewOrder
      Proto:
        Ref: Proto
      RegionId:
        Ref: RegionId
      Source:
        Ref: Source
      SourceType:
        Ref: SourceType
      VpcFirewallId:
        Ref: VpcFirewallId
    Type: ALIYUN::CLOUDFW::VpcFirewallControlPolicy
Outputs:
  AclUuid:
    Description: The unique ID of the access control policy.
    Value:
      Fn::GetAtt:
      - VpcFirewallControlPolicy
      - AclUuid
```

17.CMS

17.1. ALIYUN::CMS::Contact

ALIYUN::CMS::Contact is used to create an alarm Contact.

Syntax

```
{
  "Type": "ALIYUN::CMS::Contact",
  "Properties": {
    "Describe": String,
    "ContactName": String,
    "Channels": Map
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
Describe	String	Yes	Yes	Description details	N/A
ContactName	String	Yes	No	The name of the alert contact that you want to create.	The name must be 2 to 40 characters in length and can contain Chinese character, letters, numbers, periods (.), and periods (.). It must start with a letter. and underscores (_).
Channels	Map	Yes	Yes	The contact information of the sub-account user.	Add at least one of the following DingTalk: mobile number, Email, contact information chatbot, and TradeManager.

Channels syntax

```
"Channels": {
  "Mail": String,
  "AliIM": String,
  "DingWebHook": String,
  "SMS": String
}
```

Channels properties

Parameter	Type	Required	Editable	Description	Constraint
Mail	String	No	Yes	Email address	The system will receive an activation link for the added or modified Email. After the Email is activated, the corresponding Email will be added to the contact.
AliIM	String	No	Yes	Wangwang contact information	N/A
DingWebHook	String	No	Yes	DingTalk Webhook	N/A

Parameter	Type	Required	Editable	Description	Constraint
SMS	String	No	Yes	Phone number, text message, or phone contact information	The system will receive an activation link for the added or modified mobile phone number, which will be added to the contact only after activation.

Error code

Fn::GetAtt

ContactName: the name of an alarm contact.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Describe": {
      "Type": "String",
      "Description": "The description of the alert contact."
    },
    "ContactName": {
      "Type": "String",
      "Description": "The name of the alarm contact."
    },
    "Channels": {
      "Type": "Json"
    }
  },
  "Resources": {
    "Contact": {
      "Type": "ALIYUN::CMS::Contact",
      "Properties": {
        "Describe": {
          "Ref": "Describe"
        },
        "ContactName": {
          "Ref": "ContactName"
        },
        "Channels": {
          "Ref": "Channels"
        }
      }
    }
  },
  "Outputs": {
    "ContactName": {
      "Description": "The name of the alarm contact.",
      "Value": {
        "Fn::GetAtt": [
          "Contact",
          "ContactName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Describe:
    Type: String
    Description: The description of the alert contact.
  ContactName:
    Type: String
    Description: The name of the alarm contact.
  Channels:
    Type: Json
Resources:
  Contact:
    Type: 'ALIYUN::CMS::Contact'
    Properties:
      Describe:
        Ref: Describe
      ContactName:
        Ref: ContactName
      Channels:
        Ref: Channels
Outputs:
  ContactName:
    Description: The name of the alarm contact.
    Value:
      'Fn::GetAtt':
        -Contact
        -ContactName
```

17.2. ALIYUN::CMS::ContactGroup

ALIYUN::CMS::ContactGroup is used to create an alarm contact group.

Syntax

```
{
  "Type": "ALIYUN::CMS::ContactGroup",
  "Properties": {
    "Describe": String,
    "ContactGroupName": String,
    "ContactNames": List
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
Describe	String	Yes	Yes	Alert contact group description	N/A
ContactGroupName	String	Yes	No	Alert contact group name	N/A
ContactNames	List	Yes	Yes	Alert contact group description	You can add 1 to 100 alert contacts. Separate multiple alert contacts with commas (,).

Error code

Fn::GetAtt

ContactGroupName: The name of the alert contact group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Describe": {
      "Type": "String",
      "Description": "The description of the alert contact group."
    },
    "ContactGroupName": {
      "Type": "String",
      "Description": "The name of the alert contact group."
    },
    "ContactNames": {
      "Type": "Json",
      "Description": "The name of the alert contact.",
      "MinLength": 1,
      "MaxLength": 100
    }
  },
  "Resources": {
    "ContactGroup": {
      "Type": "ALIYUN::CMS::ContactGroup",
      "Properties": {
        "Describe": {
          "Ref": "Describe"
        },
        "ContactGroupName": {
          "Ref": "ContactGroupName"
        },
        "ContactNames": {
          "Ref": "ContactNames"
        }
      }
    }
  },
  "Outputs": {
    "ContactGroupName": {
      "Description": "The name of the alert contact group.",
      "Value": {
        "Fn::GetAtt": [
          "ContactGroup",
          "ContactGroupName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Describe:
    Type: String
    Description: The description of the alert contact group.
  ContactGroupName:
    Type: String
    Description: The name of the alert contact group.
  ContactNames:
    Type: Json
    Description: The name of the alert contact.
    MinLength: 1
    MaxLength: 100
Resources:
  ContactGroup:
    Type: 'ALIYUN::CMS::ContactGroup'
    Properties:
      Describe:
        Ref: Describe
      ContactGroupName:
        Ref: ContactGroupName
      ContactNames:
        Ref: ContactNames
Outputs:
  ContactGroupName:
    Description: The name of the alert contact group.
    Value:
      'Fn::GetAtt':
        -ContactGroup
        -ContactGroupName
```

17.3. ALIYUN::CMS::DynamicTagGroup

ALIYUN::CMS::DynamicTagGroup is used to create a tag rule based on which cloud resources can be automatically added to an application group.

Note This resource type is supported only for Elastic Compute Service (ECS), ApsaraDB RDS, and Server Load Balancer (SLB) instances.

Syntax

```
{
  "Type": "ALIYUN::CMS::DynamicTagGroup",
  "Properties": {
    "ContactGroupList": List,
    "MatchExpressFilterRelation": String,
    "EnableSubscribeEvent": Boolean,
    "TemplateIdList": List,
    "TagKey": String,
    "EnableInstallAgent": Boolean,
    "MatchExpress": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ContactGroupList	List	Yes	No	The list of one or more alert contacts to receive alert notifications.	None
MatchExpressFilterRelation	String	No	No	The logical operator used between conditional expressions that are used to match instances.	Valid values: • and • or

Property	Type	Required	Editable	Description	Constraint
EnableSubscribeEvent	Boolean	No	No	Specifies whether to enable event subscription.	Valid values: • true: Event subscription is enabled. • false: Event subscription is disabled.
TemplateIdList	List	No	No	The list of one or more IDs of the alert templates.	None
TagKey	String	Yes	No	The tag key.	None
EnableInstallAgent	Boolean	No	No	Specifies whether to install the Cloud Monitor agent on ECS instances that are automatically added to the application group.	Default value: false. Valid values: • true: The Cloud Monitor agent is installed. • false: The Cloud Monitor agent is not installed. **Note** If the Cloud Monitor agent is not installed on an ECS instance that is added to the application group, the system installs the Cloud Monitor agent on the ECS instance.
MatchExpress	List	No	No	The conditional expression that is used to match instances.	Only one conditional expression can be set. For more information, see MatchExpress properties.

MatchExpress syntax

```
"MatchExpress": [
  {
    "TagValue": String,
    "TagValueMatchFunction": String
  }
]
```

MatchExpress properties

Property	Type	Required	Editable	Description	Constraint
TagValue	String	Yes	No	The tag value.	None
TagValueMatchFunction	String	Yes	No	The method used to match the value of the tag.	Valid values: • contains • startWith • endWith • notContains • equals • all

Response parameters

Fn::GetAtt

- DynamicTagRuleId: the ID of the tag rule.
- TagKey: the tag key.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ContactGroupList": {
```

```
      "Type": "Json",
      "Description": "Alarm contacts."
    },
    "MatchExpressFilterRelation": {
      "Type": "String",
      "Description": "The relationship between the conditional expressions. Values are:\nand: the relationship between\nor: the
relationship or the\nDescription currently supports only one combination of conditions, the follow-up Ali cloud will support a
variety of combinations of conditions.",
      "AllowedValues": [
        "and",
        "or"
      ]
    },
    "EnableSubscribeEvent": {
      "Type": "Boolean",
      "Description": "Whether the event subscription is enabled. Values are\n:true: enable event subscription\nfalse: disable e
vent subscription",
      "AllowedValues": [
        "true",
        "false"
      ]
    },
    "TemplateIdList": {
      "Type": "Json",
      "Description": "Alarm template ID list.\nWhen the automatically generated application group synchronizes tags, it will ge
nerate alarm rules according to the specified alarm template.",
      "MaxLength": 5
    },
    "TagKey": {
      "Type": "String",
      "Description": "Tag key."
    },
    "EnableInstallAgent": {
      "Type": "Boolean",
      "Description": "Whether to enable initial installation monitoring plug, not installed by default. Values are:\ntrue: enab
le installation\nNote If ECS generated instances group does not monitor plug-in installed will attempt to automatically install
.\nfalse: disable installation",
      "AllowedValues": [
        "true",
        "false"
      ]
    },
    "MatchExpress": {
      "Type": "Json",
      "Description": "Matching list. Only supports one currently.",
      "MaxLength": 1
    }
  },
  "Resources": {
    "DynamicTagGroup": {
      "Type": "ALIYUN::CMS::DynamicTagGroup",
      "Properties": {
        "ContactGroupList": {
          "Ref": "ContactGroupList"
        },
        "MatchExpressFilterRelation": {
          "Ref": "MatchExpressFilterRelation"
        },
        "EnableSubscribeEvent": {
          "Ref": "EnableSubscribeEvent"
        },
        "TemplateIdList": {
          "Ref": "TemplateIdList"
        },
        "TagKey": {
          "Ref": "TagKey"
        },
        "EnableInstallAgent": {
          "Ref": "EnableInstallAgent"
        },
        "MatchExpress": {
          "Ref": "MatchExpress"
        }
      }
```

```
    }
  },
  "Outputs": {
    "DynamicTagRuleId": {
      "Description": "Dynamic tag rule ID.",
      "Value": {
        "Fn::GetAtt": [
          "DynamicTagGroup",
          "DynamicTagRuleId"
        ]
      }
    },
    "TagKey": {
      "Description": "Tag key.",
      "Value": {
        "Fn::GetAtt": [
          "DynamicTagGroup",
          "TagKey"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ContactGroupList:
    Type: Json
    Description: Alarm contacts.
  MatchExpressFilterRelation:
    Type: String
    Description: >-
      The relationship between the conditional expressions. Values are:
      and: the relationship between
      or: the relationship or the
      Description currently supports only one combination of conditions, the
      follow-up Ali cloud will support a variety of combinations of conditions.
    AllowedValues:
      - and
      - or
  EnableSubscribeEvent:
    Type: Boolean
    Description: |-
      Whether the event subscription is enabled. Values are
      :true: enable event subscription
      false: disable event subscription
    AllowedValues:
      - 'true'
      - 'false'
  TemplateIdList:
    Type: Json
    Description: >-
      Alarm template ID list.
      When the automatically generated application group synchronizes tags, it
      will generate alarm rules according to the specified alarm template.
    MaxLength: 5
  TagKey:
    Type: String
    Description: Tag key.
  EnableInstallAgent:
    Type: Boolean
    Description: >-
      Whether to enable initial installation monitoring plug, not installed by
      default. Values are:
      true: enable installation
      Note If ECS generated instances group does not monitor plug-in installed
      will attempt to automatically install.
      false: disable installation
    AllowedValues:
      - 'true'
      - 'false'
  MatchExpress:
```

```
    Type: Json
    Description: Matching list. Only supports one currently.
    MaxLength: 1
Resources:
  DynamicTagGroup:
    Type: 'ALIYUN::CMS::DynamicTagGroup'
    Properties:
      ContactGroupList:
        Ref: ContactGroupList
      MatchExpressFilterRelation:
        Ref: MatchExpressFilterRelation
      EnableSubscribeEvent:
        Ref: EnableSubscribeEvent
      TemplateIdList:
        Ref: TemplateIdList
      TagKey:
        Ref: TagKey
      EnableInstallAgent:
        Ref: EnableInstallAgent
      MatchExpress:
        Ref: MatchExpress
Outputs:
  DynamicTagRuleId:
    Description: Dynamic tag rule ID.
    Value:
      'Fn::GetAtt':
        - DynamicTagGroup
        - DynamicTagRuleId
  TagKey:
    Description: Tag key.
    Value:
      'Fn::GetAtt':
        - DynamicTagGroup
        - TagKey
```

17.4. ALIYUN::CMS::EventRule

ALIYUN::CMS::EventRule is used to create or modify an event-triggered alert rule. If the specified rule name does not exist, an event-triggered alert rule is created. If the specified rule name exists, the specified event-triggered alert rule is modified.

Syntax

```
{
  "Type": "ALIYUN::CMS::EventRule",
  "Properties": {
    "Description": String,
    "EventType": String,
    "EventPattern": List,
    "State": String,
    "RuleName": String,
    "GroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the alert rule.	None
EventType	String	No	Yes	The type of the event.	Valid values: • SYSTEM • CUSTOM

Property	Type	Required	Editable	Description	Constraint
EventPattern	List	Yes	Yes	The list of event pattern parameters.	The list can contain a maximum of 50 event pattern parameters. For more information, see EventPattern properties.
State	String	No	Yes	The status of the alert rule.	Valid values: • ENABLED • DISABLED
RuleName	String	Yes	No	The name of the alert rule.	None
GroupId	String	No	Yes	The ID of the application group.	None

EventPattern syntax

```
"EventPattern": [
  {
    "StatusList": List,
    "NameList": List,
    "Product": String,
    "EventTypeList": List,
    "LevelList": List
  }
]
```

EventPattern properties

Property	Type	Required	Editable	Description	Constraint
StatusList	List	No	Yes	The list of one or more event statuses.	None
NameList	List	No	Yes	The list of one or more event names.	None
Product	String	No	Yes	The type of the cloud service.	None
EventTypeList	List	No	Yes	The list of one or more event types.	An asterisk (*) indicates all types.
LevelList	List	No	Yes	The list of event alert levels.	Valid values: • CRITICAL • WARN • INFO An asterisk (*) indicates all levels.

Response parameters

Fn::GetAtt

Data: the number of rows that are affected by the event-triggered alert rule.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "EventRule": {
      "Type": "ALIYUN::CMS::EventRule",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "EventType": {
          "Ref": "EventType"
        },
        "EventPattern": {
          "Ref": "EventPattern"
        },
        "State": {
          "Ref": "State"
        },
        "RuleName": {
          "Ref": "RuleName"
        },
        "GroupId": {
          "Ref": "GroupId"
        }
      }
    }
  },
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the alert rule."
    },
    "EventType": {
      "Type": "String",
      "Description": "The type of the event alert. Valid values: SYSTEM or CUSTOM."
    },
    "EventPattern": {
      "Type": "Json"
    },
    "State": {
      "Type": "String",
      "Description": "The status of the alert rule. Valid values: ENABLED or DISABLED."
    },
    "RuleName": {
      "Type": "String",
      "Description": "The name of the alarm rule."
    },
    "GroupId": {
      "Type": "String",
      "Description": "The ID of the application group."
    }
  },
  "Outputs": {
    "Data": {
      "Description": "Number of rows affected.",
      "Value": {
        "Fn::GetAtt": [
          "EventRule",
          "Data"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  EventRule:
    Type: ALIYUN::CMS::EventRule
    Properties:
      Description:
        Ref: Description
      EventType:
        Ref: EventType
      EventPattern:
        Ref: EventPattern
      State:
        Ref: State
      RuleName:
        Ref: RuleName
      GroupId:
        Ref: GroupId
Parameters:
  Description:
    Type: String
    Description: The description of the alert rule.
  EventType:
    Type: String
    Description: The type of the event alert. Valid values: SYSTEM or CUSTOM.
  EventPattern:
    Type: Json
  State:
    Type: String
    Description: The status of the alert rule. Valid values: ENABLED or DISABLED.
  RuleName:
    Type: String
    Description: The name of the alarm rule.
  GroupId:
    Type: String
    Description: The ID of the application group.
Outputs:
  Data:
    Description: Number of rows affected.
    Value:
      Fn::GetAtt:
      - EventRule
      - Data
```

17.5. ALIYUN::CMS::EventRuleTargets

ALIYUN::CMS::EventRuleTargets is used to add or modify the targets to which alert notifications are sent based on an event-triggered alert rule.

Syntax

```
{
  "Type": "ALIYUN::CMS::EventRuleTargets",
  "Properties": {
    "FcParameters": List,
    "WebhookParameters": List,
    "MnsParameters": List,
    "ContactParameters": List,
    "RuleName": String,
    "SlsParameters": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
FcParameters	List	No	Yes	The list of Function Compute parameters.	The list can contain a maximum of five parameters. For more information, see FcParameters properties.
WebhookParameters	List	No	Yes	The list of Webhook parameters.	The list can contain a maximum of five parameters. For more information, see WebhookParameters properties.
MnsParameters	List	No	Yes	The list of Message Service (MNS) parameters.	The list can contain a maximum of five parameters. For more information, see MnsParameters properties.
ContactParameters	List	No	Yes	The list of contact parameters.	For more information, see ContactParameters properties.
RuleName	String	Yes	No	The name of the event-triggered alert rule.	None
SlsParameters	List	No	Yes	The list of Log Service parameters.	The list can contain a maximum of five parameters. For more information, see SlsParameters properties.

FcParameters syntax

```
"FcParameters": [
  {
    "Region": String,
    "ServiceName": String,
    "Id": String,
    "FunctionName": String
  }
]
```

FcParameters properties

Property	Type	Required	Editable	Description	Constraint
Region	String	No	Yes	The region where the Function Compute service is deployed.	None
ServiceName	String	No	Yes	The name of the Function Compute service.	None

Property	Type	Required	Editable	Description	Constraint
Id	String	No	Yes	The ID of the resource for which to add or modify the targets based on the event-triggered alert rule.	None
FunctionName	String	No	Yes	The name of the function.	None

WebhookParameters syntax

```
"WebhookParameters": [
  {
    "Url": String,
    "Protocol": String,
    "Id": String,
    "Method": String
  }
]
```

WebhookParameters properties

Property	Type	Required	Editable	Description	Constraint
Url	String	No	Yes	The callback URL.	None
Protocol	String	No	Yes	The name of the protocol.	None
Id	String	No	Yes	The ID of the resource for which to add or modify the targets based on the event-triggered alert rule.	None
Method	String	No	Yes	The request method of the HTTP callback.	Valid values: • GET • POST

MnsParameters syntax

```
"MnsParameters": [
  {
    "Queue": String,
    "Region": String,
    "Id": String
  }
]
```

MnsParameters properties

Property	Type	Required	Editable	Description	Constraint
Queue	String	No	Yes	The name of the MNS queue.	None
Region	String	No	Yes	The region where MNS is deployed.	None
Id	String	No	Yes	The ID of the resource for which to add or modify the targets based on the event-triggered alert rule.	None

ContactParameters syntax

```
"ContactParameters": [
  {
    "ContactGroupName": String,
    "Id": String,
    "Level": String
  }
]
```

ContactParameters properties

Property	Type	Required	Editable	Description	Constraint
ContactGroupName	String	No	Yes	The name of the alert contact group.	None
Id	String	No	Yes	The ID of the resource for which to add or modify the targets based on the event-triggered alert rule.	None
Level	String	No	Yes	The level of the alert notification.	Valid values: • 2 • 3 • 4 Alert notifications are sent by using DingTalk and emails.

SlsParameters syntax

```
"SlsParameters": [
  {
    "Project": String,
    "LogStore": String,
    "Region": String,
    "Id": String
  }
]
```

SlsParameters properties

Property	Type	Required	Editable	Description	Constraint
Project	String	No	Yes	The name of the project in Log Service.	None
LogStore	String	No	Yes	The name of the Logstore in Log Service.	None
Region	String	No	Yes	The region where Log Service is deployed.	None
Id	String	No	Yes	The ID of the resource for which to add or modify the targets based on the event-triggered alert rule.	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "EventRuleTargets": {
      "Type": "ALIYUN::CMS::EventRuleTargets",
      "Properties": {
        "SlsParameters": {
          "Ref": "SlsParameters"
        },
        "WebhookParameters": {
          "Ref": "WebhookParameters"
        },
        "MnsParameters": {
          "Ref": "MnsParameters"
        },
        "ContactParameters": {
          "Ref": "ContactParameters"
        },
        "RuleName": {
          "Ref": "RuleName"
        },
        "FcParameters": {
          "Ref": "FcParameters"
        }
      }
    }
  },
  "Parameters": {
    "SlsParameters": {
      "Type": "Json",
      "Description": "Parameters of SLS."
    },
    "WebhookParameters": {
      "Type": "Json",
      "Description": "Parameters of WebHook."
    },
    "MnsParameters": {
      "Type": "Json",
      "Description": "Parameters of MNS."
    },
    "ContactParameters": {
      "Type": "Json",
      "Description": "Parameters of Contact."
    },
    "RuleName": {
      "Type": "String",
      "Description": "The name of the alert rule."
    },
    "FcParameters": {
      "Type": "Json",
      "Description": "Parameters of FC."
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  EventRuleTargets:
    Type: ALIYUN::CMS::EventRuleTargets
    Properties:
      SlsParameters:
        Ref: SlsParameters
      WebhookParameters:
        Ref: WebhookParameters
      MnsParameters:
        Ref: MnsParameters
      ContactParameters:
        Ref: ContactParameters
      RuleName:
        Ref: RuleName
      FcParameters:
        Ref: FcParameters
Parameters:
  SlsParameters:
    Type: Json
    Description: Parameters of SLS.
  WebhookParameters:
    Type: Json
    Description: Parameters of WebHook.
  MnsParameters:
    Type: Json
    Description: Parameters of MNS.
  ContactParameters:
    Type: Json
    Description: Parameters of Contact.
  RuleName:
    Type: String
    Description: The name of the alert rule.
  FcParameters:
    Type: Json
    Description: Parameters of FC.
```

17.6. ALIYUN::CMS::GroupMetricRule

ALIYUN::CMS::GroupMetricRule is used to create an alert rule for an application group.

Syntax

```
{
  "Type": "ALIYUN::CMS::GroupMetricRule",
  "Properties": {
    "NoEffectiveInterval": String,
    "SilenceTime": Integer,
    "Category": String,
    "RuleId": String,
    "Dimensions": String,
    "Period": Integer,
    "EffectiveInterval": String,
    "Namespace": String,
    "GroupId": String,
    "MetricName": String,
    "Escalations": Map,
    "EmailSubject": String,
    "Webhook": String,
    "RuleName": String,
    "Interval": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
NoEffectiveInterval	String	No	Yes	The time period during which the alert rule does not take effect.	None

Property	Type	Required	Editable	Description	Constraint
SilenceTime	Integer	No	Yes	The time period during which you do not receive notifications but the triggered alert remains effective.	Unit: seconds. Minimum value: 3600. This value is equivalent to one hour. Default value: 86400. This value is equivalent to one day.

Property	Type	Required	Editable	Description	Constraint
Category	String	Yes	No	The abbreviation of the service name.	Valid values: • ecs: Elastic Compute Service (ECS) • rds: ApsaraDB RDS • ads: AnalyticDB for MySQL • slb: Server Load Balancer (SLB) • vpc: Virtual Private Cloud (VPC) • apigateway: API Gateway • cdn: Alibaba Cloud CDN (CDN) • cs: Container Service for Kubernetes (ACK) • dcdn: Dynamic Route for CDN (DCDN) • ddos: Anti-DDoS Pro and Anti-DDoS Premium • eip: Elastic IP Address (EIP) • elasticsearch: Elasticsearch • emr: E-MapReduce (EMR) • ess: Auto Scaling (ESS) • hbase: ApsaraDB for HBase • iot_edge: IoT Edge • k8s_pod: pods in ACK • kvstore_sharding: ApsaraDB for Redis that uses the cluster master-replica architecture • kvstore_splitrw: ApsaraDB for Redis that uses the read/write splitting architecture • kvstore_standard: ApsaraDB for Redis that uses the standard master-replica architecture • memcache: ApsaraDB for Memcache • mns: Message Service (MNS) • mongodb: ApsaraDB for MongoDB that uses the replica set architecture • ApsaraDB for MongoDB that uses the standalone architecture • mongodb_sharding: ApsaraDB for MongoDB that uses the sharded cluster architecture • mq_topic: MNS topics • ocs: ApsaraDB for Memcache (OCS) • opensearch: Open Search • oss: Object Storage Service (OSS) • polardb: PolarDB • petadata: HybridDB for MySQL • scdn: Secure CDN (SCDN) • sharebandwidthpackages: EIP Bandwidth Plan • sls: Log Service • vpn: VPN Gateway **Note** More Alibaba Cloud services are to be supported in the future.

Property	Type	Required	Editable	Description	Constraint
RuleId	String	Yes	No	The ID of the alert rule.	The rule ID is generated by the caller to make sure that it is unique.
Dimensions	String	No	Yes	The expended resource dimensions.	This parameter associates all instances in the application group with the alert rule. You can set this parameter to associate lower-level resources with the alert rule. For example, if you need to associate the disk usage of root partitions of all instances in the application group with the alert rule, set this parameter to `[ {"dskName":"/"} ]`.
Period	Integer	No	Yes	The aggregation period of monitoring data.	The value is an integral multiple of 60. Unit: seconds. Default value: 300. **Note** Assume that raw monitoring data is reported at an interval of 1 minute. If you set this parameter to 300, the average of the 5-minute monitoring data is used to determine whether to trigger an alert.
EffectiveInterval	String	No	Yes	The time period during which the alert rule is effective.	None
Namespace	String	Yes	No	The namespace of the service. For more information, see DescribeMetricMetaList or Major metrics of Alibaba Cloud services.	None
GroupId	String	Yes	Yes	The ID of the application group.	None
MetricName	String	Yes	Yes	The name of the metric. For more information, see DescribeMetricMetaList or Major metrics of Alibaba Cloud services.	None
Escalations	Map	Yes	Yes	The alert settings.	For more information, see the Escalations properties section.
EmailSubject	String	No	Yes	The subject of the alert notification email.	None
Webhook	String	No	Yes	The webhook address to which a request is sent when an alert is triggered.	None
RuleName	String	Yes	Yes	The name of the alert rule.	None

Property	Type	Required	Editable	Description	Constraint
Interval	Integer	No	Yes	The interval at which Cloud Monitor checks whether the alert rule is triggered. The default value is the lowest frequency at which the metric is polled.	Unit: seconds. We recommend that you set this interval to the data aggregation period. If this interval is shorter than the data aggregation period, alerts cannot be triggered due to insufficient data.

Escalations syntax

```
"Escalations": {
  "Critical": Map,
  "Info": Map,
  "Warn": Map
}
```

Escalations properties

Property	Type	Required	Editable	Description	Constraint
Critical	Map	No	Yes	The settings for critical-level alerts.	For more information, see the Critical properties section.
Info	Map	No	Yes	The settings for info-level alerts.	For more information, see the Info properties section.
Warn	Map	No	Yes	The settings for warn-level alerts.	For more information, see the Warn properties section.

Critical syntax

```
"Critical": {
  "ComparisonOperator": String,
  "Times": Integer,
  "Statistics": String,
  "Threshold": Integer
}
```

Critical properties

Property	Type	Required	Editable	Description	Constraint
ComparisonOperator	String	Yes	Yes	The comparison operator of the threshold for critical-level alerts.	Valid values: • GreaterThanOrEqualToThreshold • GreaterThanThreshold • LessThanOrEqualToThreshold • LessThanThreshold • NotEqualToThreshold • GreaterThanYesterday • LessThanYesterday • GreaterThanLastWeek • LessThanLastWeek • GreaterThanLastPeriod • LessThanLastPeriod
Times	Integer	Yes	Yes	The number of times for which the metric value must exceed the threshold consecutively before a critical-level alert is triggered.	None

Property	Type	Required	Editable	Description	Constraint
Statistics	String	Yes	Yes	The statistical method for critical-level alerts.	For more information about the statistical methods for alerts of different levels, see DescribeSystemEventMetaList.
Threshold	Integer	Yes	Yes	The threshold for critical-level alerts.	None

Info syntax

```
"Info": {
  "ComparisonOperator": String,
  "Times": Integer,
  "Statistics": String,
  "Threshold": Integer
}
```

Info properties

Property	Type	Required	Editable	Description	Constraint
ComparisonOperator	String	Yes	Yes	The comparison operator of the threshold for info-level alerts.	Valid values: • GreaterThanOrEqualToThreshold • GreaterThanThreshold • LessThanOrEqualToThreshold • LessThanThreshold • NotEqualToThreshold • GreaterThanYesterday • LessThanYesterday • GreaterThanLastWeek • LessThanLastWeek • GreaterThanLastPeriod • LessThanLastPeriod
Times	Integer	Yes	Yes	The number of times for which the metric value must exceed the threshold consecutively before an info-level alert is triggered.	None
Statistics	String	Yes	Yes	The statistical method for info-level alerts.	For more information about the statistical methods for alerts of different levels, see DescribeSystemEventMetaList.
Threshold	Integer	Yes	Yes	The threshold for info-level alerts.	None

Warn syntax

```
"Warn": {
  "ComparisonOperator": String,
  "Times": Integer,
  "Statistics": String,
  "Threshold": Integer
}
```

Warn properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ComparisonOperator	String	Yes	Yes	The comparison operator of the threshold for warn-level alerts.	Valid values: • GreaterThanOrEqualToThreshold • GreaterThanThreshold • LessThanOrEqualToThreshold • LessThanThreshold • NotEqualToThreshold • GreaterThanYesterday • LessThanYesterday • GreaterThanLastWeek • LessThanLastWeek • GreaterThanLastPeriod • LessThanLastPeriod
Times	Integer	Yes	Yes	The number of times for which the metric value must exceed the threshold consecutively before a warn-level alert is triggered.	None
Statistics	String	Yes	Yes	The statistical method for warn-level alerts.	For more information about the statistical methods for alerts of different levels, see DescribeSystemEventMetaList.
Threshold	Integer	Yes	Yes	The threshold for warn-level alerts.	None

Response parameters

Fn::GetAtt

RuleId: the ID of the alert rule.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "NoEffectiveInterval": {
      "Type": "String",
      "Description": "The period when the alert rule is ineffective."
    },
    "SilenceTime": {
      "Type": "Number",
      "Description": "The duration of the mute period during which new alerts are not sent even if the trigger\nconditions are
met. Unit: second. Default value: 86400. Minimum value: 60.",
      "MinValue": 60
    },
    "Category": {
      "Type": "String",
      "Description": "The abbreviation of the service name. Valid values:\nECS (including Alibaba Cloud and non-Alibaba Cloud h
osts)\nRDS (ApsaraDB for RDS)\nADS (AnalyticDB)\nSLB (Server Load Balancer)\nVPC (Virtual Private Cloud)\nAPIGATEWAY (API Gatew
ay)\nCDN\nCS (Container Service for Swarm)\nDCDN (Dynamic Route for CDN)\nDDoS (distributed denial of service)\nEIP (Elastic IP
)\nELASTICSEARCH (Elasticsearch)\nEMR (E-MapReduce)\nESS (Auto Scaling)\nHBASE (ApsaraDB for HBase)\nIOT_EDGE (IoT Edge)\nK8S_P
OD (k8s pod)\nKVSTORE_SHARDING (ApsaraDB for Redis cluster version)\nKVSTORE_SPLITRW (ApsaraDB for Redis read/write splitting v
ersion)\nKVSTORE_STANDARD (ApsaraDB for Redis standard version)\nMEMCACHE (ApsaraDB for Memcache)\nMNS (Message Service)\nMONGO
DB (ApsaraDB for MongoDB replica set instances)\nMONGODB_CLUSTER (ApsaraDB for MongoDB cluster version)\nMONGODB_SHARDING (Apsa
raDB for MongoDB sharded clusters)\nMQ_TOPIC (Message Service topic)\nOCS (original version of ApsaraDB for Memcache)\nOPENSEAR
CH (Open Search)\nOSS (Object Storage Service)\nPOLARDB (ApsaraDB for POLARDB)\nPETADATA (HybridDB for MySQL)\nSCDN (Secure Con
tent Delivery Network)\nSHAREBANDWIDTHPACKAGES (shared bandwidth package)\nSLS (Log Service)\nVPN (VPN Gateway)"
    },
    "RuleId": {
      "Type": "String",
      "Description": "The ID of the alert rule. The IDs of alert rules are generated by callers to ensure\nuniqueness."
    },
    "Dimensions": {
      "Type": "String",
```

```
      "Description": "The expended resource dimensions."
    },
    "Period": {
      "Type": "Number",
      "Description": "The aggregation period. Unite: second."
    },
    "EffectiveInterval": {
      "Type": "String",
      "Description": "The period when the alert rule is effective."
    },
    "Namespace": {
      "Type": "String",
      "Description": "The data namespace of the service. For more information, call DescribeMetricMetaList\nor see Preset metri
cs reference."
    },
    "GroupId": {
      "Type": "String",
      "Description": "The ID of application group."
    },
    "MetricName": {
      "Type": "String",
      "Description": "The name of the metric. For more information, call DescribeMetricMetaList or see Preset metrics reference
."
    },
    "Escalations": {
      "Type": "Json"
    },
    "EmailSubject": {
      "Type": "String",
      "Description": "The subject of the alert notification email."
    },
    "Webhook": {
      "Type": "String",
      "Description": "The URL of the callback triggered when an alert occurs."
    },
    "RuleName": {
      "Type": "String",
      "Description": "The name of the alert rule."
    },
    "Interval": {
      "Type": "Number",
      "Description": "The detection period of alerts."
    }
  },
  "Resources": {
    "GroupMetricRule": {
      "Type": "ALIYUN::CMS::GroupMetricRule",
      "Properties": {
        "NoEffectiveInterval": {
          "Ref": "NoEffectiveInterval"
        },
        "SilenceTime": {
          "Ref": "SilenceTime"
        },
        "Category": {
          "Ref": "Category"
        },
        "RuleId": {
          "Ref": "RuleId"
        },
        "Dimensions": {
          "Ref": "Dimensions"
        },
        "Period": {
          "Ref": "Period"
        },
        "EffectiveInterval": {
          "Ref": "EffectiveInterval"
        },
        "Namespace": {
          "Ref": "Namespace"
        },
        "GroupId": {
          "Ref": "GroupId"
```

```
        },
        "MetricName": {
          "Ref": "MetricName"
        },
        "Escalations": {
          "Ref": "Escalations"
        },
        "EmailSubject": {
          "Ref": "EmailSubject"
        },
        "Webhook": {
          "Ref": "Webhook"
        },
        "RuleName": {
          "Ref": "RuleName"
        },
        "Interval": {
          "Ref": "Interval"
        }
      }
    }
  },
  "Outputs": {
    "RuleId": {
      "Description": "Rule ID.",
      "Value": {
        "Fn::GetAtt": [
          "GroupMetricRule",
          "RuleId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  NoEffectiveInterval:
    Type: String
    Description: The period when the alert rule is ineffective.
  SilenceTime:
    Type: Number
    Description: >-
      The duration of the mute period during which new alerts are not sent even
      if the trigger
      conditions are met. Unit: second. Default value: 86400. Minimum value: 60.
    MinValue: 60
  Category:
    Type: String
    Description: |-
      The abbreviation of the service name. Valid values:
      ECS (including Alibaba Cloud and non-Alibaba Cloud hosts)
      RDS (ApsaraDB for RDS)
      ADS (AnalyticDB)
      SLB (Server Load Balancer)
      VPC (Virtual Private Cloud)
      APIGATEWAY (API Gateway)
      CDN
      CS (Container Service for Swarm)
      DCDN (Dynamic Route for CDN)
      DDoS (distributed denial of service)
      EIP (Elastic IP)
      ELASTICSEARCH (Elasticsearch)
      EMR (E-MapReduce)
      ESS (Auto Scaling)
      HBASE (ApsaraDB for HBase)
      IOT_EDGE (IoT Edge)
      K8S_POD (k8s pod)
      KVSTORE_SHARDING (ApsaraDB for Redis cluster version)
      KVSTORE_SPLITRW (ApsaraDB for Redis read/write splitting version)
      KVSTORE_STANDARD (ApsaraDB for Redis standard version)
      MEMCACHE (ApsaraDB for Memcache)
```

```
      MNS (Message Service)
      MONGODB (ApsaraDB for MongoDB replica set instances)
      MONGODB_CLUSTER (ApsaraDB for MongoDB cluster version)
      MONGODB_SHARDING (ApsaraDB for MongoDB sharded clusters)
      MQ_TOPIC (Message Service topic)
      OCS (original version of ApsaraDB for Memcache)
      OPENSEARCH (Open Search)
      OSS (Object Storage Service)
      POLARDB (ApsaraDB for POLARDB)
      PETADATA (HybridDB for MySQL)
      SCDN (Secure Content Delivery Network)
      SHAREBANDWIDTHPACKAGES (shared bandwidth package)
      SLS (Log Service)
      VPN (VPN Gateway)
  RuleId:
    Type: String
    Description: >-
      The ID of the alert rule. The IDs of alert rules are generated by callers
      to ensure
      uniqueness.
  Dimensions:
    Type: String
    Description: The expended resource dimensions.
  Period:
    Type: Number
    Description: 'The aggregation period. Unite: second.'
  EffectiveInterval:
    Type: String
    Description: The period when the alert rule is effective.
  Namespace:
    Type: String
    Description: >-
      The data namespace of the service. For more information, call
      DescribeMetricMetaList
      or see Preset metrics reference.
  GroupId:
    Type: String
    Description: The ID of application group.
  MetricName:
    Type: String
    Description: >-
      The name of the metric. For more information, call DescribeMetricMetaList
      or see Preset metrics reference.
  Escalations:
    Type: Json
  EmailSubject:
    Type: String
    Description: The subject of the alert notification email.
  Webhook:
    Type: String
    Description: The URL of the callback triggered when an alert occurs.
  RuleName:
    Type: String
    Description: The name of the alert rule.
  Interval:
    Type: Number
    Description: The detection period of alerts.
Resources:
  GroupMetricRule:
    Type: 'ALIYUN::CMS::GroupMetricRule'
    Properties:
      NoEffectiveInterval:
        Ref: NoEffectiveInterval
      SilenceTime:
        Ref: SilenceTime
      Category:
        Ref: Category
      RuleId:
        Ref: RuleId
      Dimensions:
        Ref: Dimensions
      Period:
        Ref: Period
      EffectiveInterval:
```

```
        Ref: EffectiveInterval
      Namespace:
        Ref: Namespace
      GroupId:
        Ref: GroupId
      MetricName:
        Ref: MetricName
      Escalations:
        Ref: Escalations
      EmailSubject:
        Ref: EmailSubject
      Webhook:
        Ref: Webhook
      RuleName:
        Ref: RuleName
      Interval:
        Ref: Interval
Outputs:
  RuleId:
    Description: Rule ID.
    Value:
      'Fn::GetAtt':
        - GroupMetricRule
        - RuleId
```

17.7. ALIYUN::CMS::MetricRuleTargets

ALIYUN::CMS::MetricRuleTargets is used to add or modify one or more message resources of an alert rule.

Syntax

```
{
  "Type": "ALIYUN::CMS::MetricRuleTargets",
  "Properties": {
    "RuleId": String,
    "Targets": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RuleId	String	Yes	No	The ID of the alert rule.	None
Targets	List	Yes	No	The message resources of the alert rule.	A maximum of five message resources can be set. For more information, see Targets properties.

Targets syntax

```
"Targets": [
  {
    "Level": String,
    "Id": String,
    "Arn": String
  }
]
```

Targets properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Level	String	No	No	The level of the alert.	Valid values: • INFO • WARN • CRITICAL
Id	String	Yes	No	The ID of the message resource.	The ID must be unique in the alert rule.
Arn	String	Yes	No	The Alibaba Cloud Resource Name (ARN) of the message resource.	The ARN must be in the format of `acs:{Service name abbreviation}:{regionId}:{userId}:/{Message resource type}/{Resource name}/message`. Example: `acs:mns:cn-hangzhou:111:/queues/test/message` • {Service name abbreviation}: the abbreviation of the service name. Set the value to mns. This resource type only supports Message Notification Service (MNS) as the message service. • {regionId}: the region ID of the message queue or topic. • {userId}: the account ID of the user. • {Message resource type}: the type of the message resource. Valid values: queues and topics. • {Resource name}: the name of the resource.

Response parameters

Fn::GetAtt

- Arns: the ARNs of the message resources.
- Ids: the IDs of the message resources.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "RuleId": {
      "Type": "String",
      "Description": "The ID of the alert rule."
    },
    "Targets": {
      "Type": "Json",
      "MinLength": 1,
      "MaxLength": 5
    }
  },
  "Resources": {
    "MetricRuleTargets": {
      "Type": "ALIYUN::CMS::MetricRuleTargets",
      "Properties": {
        "RuleId": {
          "Ref": "RuleId"
        },
        "Targets": {
          "Ref": "Targets"
        }
      }
    }
  },
  "Outputs": {
    "Arns": {
      "Description": "The ARN list of targets",
      "Value": {
        "Fn::GetAtt": [
          "MetricRuleTargets",
          "Arns"
        ]
      }
    },
    "Ids": {
      "Description": "The ID list of targets",
      "Value": {
        "Fn::GetAtt": [
          "MetricRuleTargets",
          "Ids"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  RuleId:
    Type: String
    Description: The ID of the alert rule.
  Targets:
    Type: Json
    MinLength: 1
    MaxLength: 5
Resources:
  MetricRuleTargets:
    Type: 'ALIYUN::CMS::MetricRuleTargets'
    Properties:
      RuleId:
        Ref: RuleId
      Targets:
        Ref: Targets
Outputs:
  Arns:
    Description: The ARN list of targets
    Value:
      'Fn::GetAtt':
        - MetricRuleTargets
        - Arns
  Ids:
    Description: The ID list of targets
    Value:
      'Fn::GetAtt':
        - MetricRuleTargets
        - Ids
```

17.8. ALIYUN::CMS::MetricRuleTemplate

ALIYUN::CMS::MetricRuleTemplate is used to create an alert template.

Syntax

```
{
  "Type": "ALIYUN::CMS::MetricRuleTemplate",
  "Properties": {
    "AlertTemplates": List,
    "Description": String,
    "RestVersion": Integer,
    "TemplateId": Integer,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AlertTemplates	List	No	Yes	The details of alert rules that are generated based on the alert template.	A maximum of 200 alert rules can be specified. For more information, see the AlertTemplates properties section.
Description	String	No	Yes	The description of the alert template.	None
RestVersion	Integer	No	No	The version of the alert template.	Default value: 0.
TemplateId	Integer	No	No	The ID of the template to be cloned.	None
Name	String	Yes	No	The name of the alert template.	None

AlertTemplates syntax

```
"AlertTemplates": [
  {
    "MetricName": String,
    "Category": String,
    "Escalations": Map,
    "Period": Integer,
    "Webhook": String,
    "Namespace": String,
    "RuleName": String,
    "Selector": String
  }
]
```

AlertTemplates properties

Property	Type	Required	Editable	Description	Constraint
MetricName	String	Yes	Yes	The name of the metric.	None

Property	Type	Required	Editable	Description	Constraint
Category	String	Yes	Yes	The abbreviation of the service name.	Valid values: • ecs: Elastic Compute Service (ECS) • rds: ApsaraDB RDS • ads: AnalyticDB for MySQL • slb: Server Load Balancer (SLB) • vpc: Virtual Private Cloud (VPC) • apigateway: API Gateway • cdn: Alibaba Cloud CDN (CDN) • cs: Container Service for Kubernetes (ACK) • dcdn: Dynamic Route for CDN (DCDN) • ddos: Anti-DDoS Pro and Anti-DDoS Premium • eip: Elastic IP Address (EIP) • elasticsearch: Elasticsearch • emr: E-MapReduce (EMR) • ess: Auto Scaling (ESS) • hbase: ApsaraDB for HBase • iot_edge: IoT Edge • k8s_pod: pods in ACK • kvstore_sharding: ApsaraDB for Redis that uses the cluster master-replica architecture • kvstore_splitrw: ApsaraDB for Redis that uses the read/write splitting architecture • kvstore_standard: ApsaraDB for Redis that uses the standard master-replica architecture • memcache: ApsaraDB for Memcache • mns: Message Service (MNS) • mongodb: ApsaraDB for MongoDB that uses the replica set architecture • ApsaraDB for MongoDB that uses the standalone architecture • mongodb_sharding: ApsaraDB for MongoDB that uses the sharded cluster architecture • mq_topic: MNS topics • ocs: ApsaraDB for Memcache (OCS) • opensearch: Open Search • oss: Object Storage Service (OSS) • polardb: PolarDB • petadata: HybridDB for MySQL • scdn: Secure CDN (SCDN) • sharebandwidthpackages: EIP Bandwidth Plan • sls: Log Service • vpn: VPN Gateway
Escalations	Map	No	No	The alert settings.	For more information, see the Escalations properties section.
Period	Integer	No	Yes	The aggregation period of monitoring data.	The default value is the lowest frequency at which the metric is polled. Typically, you do not need to specify the aggregation period. Unit: seconds.

Property	Type	Required	Editable	Description	Constraint
Webhook	String	No	No	The webhook address to which a request is sent when an alert is triggered.	None
Namespace	String	Yes	Yes	The namespace of the service.	For more information, see DescribeMetricMetaList or Usage notes.
RuleName	String	Yes	Yes	The name of the alert rule.	None
Selector	String	No	Yes	The extended field selectors.	None

Escalations syntax

```
"Escalations": {
  "Critical": Map,
  "Info": Map,
  "Warn": Map
}
```

Escalations properties

Property	Type	Required	Editable	Description	Constraint
Critical	Map	Yes	Yes	The settings for critical-level alerts.	For more information, see the Critical properties section.
Info	Map	No	Yes	The settings for info-level alerts.	For more information, see the Info properties section.
Warn	Map	No	Yes	The settings for warn-level alerts.	For more information, see the Warn properties section.

Critical syntax

```
"Critical": {
  "ComparisonOperator": String,
  "Times": Integer,
  "Statistics": String,
  "Threshold": String
}
```

Critical properties

Property	Type	Required	Editable	Description	Constraint
ComparisonOperator	String	Yes	Yes	The comparison operator of the threshold for critical-level alerts.	Valid values: • GreaterThanOrEqualToThreshold • GreaterThanThreshold • LessThanOrEqualToThreshold • LessThanThreshold • NotEqualToThreshold • GreaterThanYesterday • LessThanYesterday • GreaterThanLastWeek • LessThanLastWeek • GreaterThanLastPeriod • LessThanLastPeriod

Property	Type	Required	Editable	Description	Constraint
Times	Integer	Yes	Yes	The number of times for which the metric value must exceed the threshold consecutively before a critical-level alert is triggered.	None
Statistics	String	Yes	Yes	The statistical method for critical-level alerts.	None
Threshold	String	Yes	Yes	The threshold for critical-level alerts.	None

Info syntax

```
"Info": {
  "ComparisonOperator": String,
  "Times": Integer,
  "Statistics": String,
  "Threshold": String
}
```

Info properties

Property	Type	Required	Editable	Description	Constraint
ComparisonOperator	String	Yes	Yes	The comparison operator of the threshold for info-level alerts.	Valid values: • GreaterThanOrEqualToThreshold • GreaterThanThreshold • LessThanOrEqualToThreshold • LessThanThreshold • NotEqualToThreshold • GreaterThanYesterday • LessThanYesterday • GreaterThanLastWeek • LessThanLastWeek • GreaterThanLastPeriod • LessThanLastPeriod
Times	Integer	Yes	Yes	The number of times for which the metric value must exceed the threshold consecutively before an info-level alert is triggered.	None
Statistics	String	Yes	Yes	The statistical method for info-level alerts.	None
Threshold	String	Yes	Yes	The threshold for info-level alerts.	None

Warn syntax

```
"Warn": {
  "ComparisonOperator": String,
  "Times": Integer,
  "Statistics": String,
  "Threshold": String
}
```

Warn properties

Property	Type	Required	Editable	Description	Constraint
ComparisonOperator	String	Yes	Yes	The comparison operator of the threshold for warn-level alerts.	Valid values: • GreaterThanOrEqualToThreshold • GreaterThanThreshold • LessThanOrEqualToThreshold • LessThanThreshold • NotEqualToThreshold • GreaterThanYesterday • LessThanYesterday • GreaterThanLastWeek • LessThanLastWeek • GreaterThanLastPeriod • LessThanLastPeriod
Times	Integer	Yes	Yes	The number of times for which the metric value must exceed the threshold consecutively before a warn-level alert is triggered.	None
Statistics	String	Yes	Yes	The statistical method for warn-level alerts.	None
Threshold	String	Yes	Yes	The threshold for warn-level alerts.	None

Response parameters

Fn::GetAtt

Id: the ID of the alert template.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AlertTemplates": {
      "Type": "Json",
      "Description": "Valid values of N: 0 to 200.",
      "MinLength": 0,
      "MaxLength": 200
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the alert template."
    },
    "RestVersion": {
      "Type": "Number",
      "Description": "The version of the alert template. Call DescribeMetricRuleTemplateList or DescribeMetricRuleTemplateAttri
bute\nto obtain information about the alert templates. The combination of version and ID\nuniquely identifies an alert template
."
    },
    "TemplateId": {
      "Type": "Number",
      "Description": "The ID of the alert template."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the alert template."
    }
  },
  "Resources": {
    "MetricRuleTemplate": {
      "Type": "ALIYUN::CMS::MetricRuleTemplate",
      "Properties": {
        "AlertTemplates": {
          "Ref": "AlertTemplates"
        },
        "Description": {
          "Ref": "Description"
        },
        "RestVersion": {
          "Ref": "RestVersion"
        },
        "TemplateId": {
          "Ref": "TemplateId"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Id": {
      "Description": "Alarm template ID.",
      "Value": {
        "Fn::GetAtt": [
          "MetricRuleTemplate",
          "Id"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AlertTemplates:
    Type: Json
    Description: 'Valid values of N: 0 to 200.'
    MinLength: 0
    MaxLength: 200
  Description:
    Type: String
    Description: The description of the alert template.
  RestVersion:
    Type: Number
    Description: >-
      The version of the alert template. Call DescribeMetricRuleTemplateList or
      DescribeMetricRuleTemplateAttribute
      to obtain information about the alert templates. The combination of
      version and ID
      uniquely identifies an alert template.
  TemplateId:
    Type: Number
    Description: The ID of the alert template.
  Name:
    Type: String
    Description: The name of the alert template.
Resources:
  MetricRuleTemplate:
    Type: 'ALIYUN::CMS::MetricRuleTemplate'
    Properties:
      AlertTemplates:
        Ref: AlertTemplates
      Description:
        Ref: Description
      RestVersion:
        Ref: RestVersion
      TemplateId:
        Ref: TemplateId
      Name:
        Ref: Name
Outputs:
  Id:
    Description: Alarm template ID.
    Value:
      'Fn::GetAtt':
        - MetricRuleTemplate
        - Id
```

17.9. ALIYUN::CMS::MonitoringAgentProcess

ALIYUN::CMS::MonitoringAgentProcess is used to create a process monitoring.

Syntax

```
{
  "Type": "ALIYUN::CMS::MonitoringAgentProcess",
  "Properties": {
    "ProcessName": String,
    "InstanceId": String,
    "ProcessUser": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
ProcessName	String	No	No	Process name	N/A
InstanceId	String	Yes	No	Instance ID	N/A
ProcessUser	String	No	No	The user who executes the process.	N/A

Error code

Fn::GetAtt

Id: The process ID.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ProcessName": {
      "Type": "String",
      "Description": "The name of the process."
    },
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the instance."
    },
    "ProcessUser": {
      "Type": "String",
      "Description": "The user who launched the process."
    }
  },
  "Resources": {
    "MonitoringAgentProcess": {
      "Type": "ALIYUN::CMS::MonitoringAgentProcess",
      "Properties": {
        "ProcessName": {
          "Ref": "ProcessName"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "ProcessUser": {
          "Ref": "ProcessUser"
        }
      }
    }
  },
  "Outputs": {
    "Id": {
      "Description": "The process ID.",
      "Value": {
        "Fn::GetAtt": [
          "MonitoringAgentProcess",
          "Id"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ProcessName:
    Type: String
    Description: The name of the process.
  InstanceId:
    Type: String
    Description: The ID of the instance.
  ProcessUser:
    Type: String
    Description: The user who launched the process.
Resources:
  MonitoringAgentProcess:
    Type: 'ALIYUN::CMS::MonitoringAgentProcess'
    Properties:
      ProcessName:
        Ref: ProcessName
      InstanceId:
        Ref: InstanceId
      ProcessUser:
        Ref: ProcessUser
Outputs:
  Id:
    Description: The process ID.
    Value:
      'Fn::GetAtt':
        -MonitoringAgentProcess
        -Id
```

17.10. ALIYUN::CMS::MonitorGroup

ALIYUN::CMS::MonitorGroup is used to create an application group.

Syntax

```
{
  "Type": "ALIYUN::CMS::MonitorGroup",
  "Properties": {
    "ContactGroups": String,
    "GroupName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
ContactGroups	String	No	Yes	The alert contact group to which alert notifications will be sent.	None
GroupName	String	Yes	Yes	The name of the application group to be created.	None

Response parameters

Fn::GetAtt

- GroupId: the ID of the created application group.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MonitorGroup": {
      "Type": "ALIYUN::CMS::MonitorGroup",
      "Properties": {
        "ContactGroups": {
          "Ref": "ContactGroups"
        },
        "GroupName": {
          "Ref": "GroupName"
        }
      }
    }
  },
  "Parameters": {
    "ContactGroups": {
      "Type": "String",
      "Description": "The alert contact group. Alert notifications for the application group are sent to\nthe specified alert c
ontact group."
    },
    "GroupName": {
      "Type": "String",
      "Description": "The name of the application group."
    }
  },
  "Outputs": {
    "GroupId": {
      "Description": "The application group ID generated after the group is created. ",
      "Value": {
        "Fn::GetAtt": [
          "MonitorGroup",
          "GroupId"
        ]
      }
    }
  }
}
```

17.11. ALIYUN::CMS::MonitorGroupInstances

ALIYUN::CMS::MonitorGroupInstances is used to add instances to an application group.

Syntax

```
{
  "Type": "ALIYUN::CMS::MonitorGroupInstances",
  "Properties": {
    "Instances": List,
    "GroupId": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Instances	List	Yes	No	The list of one or more instances.	For more information, see the Instances properties section.
GroupId	Integer	Yes	No	The ID of the application group.	None

Instances syntax

```
"Instances": [
  {
    "InstanceName": String,
    "Category": String,
    "InstanceId": String,
    "RegionId": String
  }
]
```

Instances properties

Property	Type	Required	Editable	Description	Constraint
InstanceName	String	Yes	No	The name of the instance.	None

Property	Type	Required	Editable	Description	Constraint
Category	String	Yes	No	The name and specifications of the service to which the instance in the application group belongs.	Valid values: • ecs: Elastic Compute Service (ECS) • rds: ApsaraDB RDS • ads: AnalyticDB for MySQL • slb: Server Load Balancer (SLB) • vpc: Virtual Private Cloud (VPC) • apigateway: API Gateway • cdn: Alibaba Cloud CDN (CDN) • cs: Container Service for Kubernetes (ACK) • dcdn: Dynamic Route for CDN (DCDN) • ddos: Anti-DDoS Pro and Anti-DDoS Premium • eip: Elastic IP Address (EIP) • elasticsearch: Elasticsearch • emr: E-MapReduce (EMR) • ess: Auto Scaling (ESS) • hbase: ApsaraDB for HBase • iot_edge: IoT Edge • k8s_pod: pods in ACK • kvstore_sharding: ApsaraDB for Redis that uses the cluster master-replica architecture • kvstore_splitrw: ApsaraDB for Redis that uses the read/write splitting architecture • kvstore_standard: ApsaraDB for Redis that uses the standard master-replica architecture • memcache: ApsaraDB for Memcache • mns: Message Service (MNS) • mongodb: ApsaraDB for MongoDB that uses the replica set architecture • mongodb_cluster: ApsaraDB for MongoDB that uses the standalone architecture • mongodb_sharding: ApsaraDB for MongoDB that uses the sharded cluster architecture • mq_topic: MNS topics • ocs: ApsaraDB for Memcache (OCS) • opensearch: Open Search • oss: Object Storage Service (OSS) • polardb: PolarDB • petadata: HybridDB for MySQL • scdn: Secure CDN (SCDN) • sharebandwidthpackages: EIP Bandwidth Plan • sls: Log Service • vpn: VPN Gateway
InstanceId	String	Yes	No	The ID of the instance.	None
RegionId	String	Yes	No	The region ID of the instance.	None

Response parameters

Fn::GetAtt

GroupId: the ID of the application group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Instances": {
      "Type": "Json"
    },
    "GroupId": {
      "Type": "Number",
      "Description": "The ID of the application group."
    }
  },
  "Resources": {
    "MonitorGroupInstances": {
      "Type": "ALIYUN::CMS::MonitorGroupInstances",
      "Properties": {
        "Instances": {
          "Ref": "Instances"
        },
        "GroupId": {
          "Ref": "GroupId"
        }
      }
    }
  },
  "Outputs": {
    "GroupId": {
      "Description": "The ID of the application group.",
      "Value": {
        "Fn::GetAtt": [
          "MonitorGroupInstances",
          "GroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Instances:
    Type: Json
  GroupId:
    Type: Number
    Description: The ID of the application group.
Resources:
  MonitorGroupInstances:
    Type: 'ALIYUN::CMS::MonitorGroupInstances'
    Properties:
      Instances:
        Ref: Instances
      GroupId:
        Ref: GroupId
Outputs:
  GroupId:
    Description: The ID of the application group.
    Value:
      'Fn::GetAtt':
        - MonitorGroupInstances
        - GroupId
```

17.12. ALIYUN::CMS::SiteMonitor

ALIYUN::CMS::SiteMonitor is used to create a site monitoring job.

Syntax

```
{
  "Type": "ALIYUN::CMS::SiteMonitor",
  "Properties": {
    "Address": String,
    "OptionsJson": String,
    "TaskName": String,
    "TaskType": String,
    "IspCities": List,
    "Interval": Integer,
    "AlertIds": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Address	String	Yes	Yes	The URL or IP address of the site to be monitored.	None
OptionsJson	String	No	Yes	The extended options of the protocol that is used by the monitoring job. The options vary based on the protocol.	None
TaskName	String	Yes	Yes	The name of the monitoring job.	The name must be 4 to 100 characters in length, and can contain letters, digits, and underscores (_).
TaskType	String	Yes	No	The type of the monitoring job.	Valid values: • HTTP(S) • PING • TCP • UDP • DNS • SMTP • POP3 • FTP
IspCities	List	No	Yes	The information about the detection points.	If you leave this parameter empty, the system randomly selects three detection points. For more information, see Isthroughput properties.
Interval	Integer	No	Yes	The interval at which detection requests are sent.	Default value: 1. Valid values: • 1 • 5 • 15 Unit: minutes.
AlertIds	List	No	No	The IDs of one or more alert rules.	You can call the DescribeMetricRuleList operation to query the IDs of existing alert rules in Cloud Monitor.

IspCities syntax

```
"IspCities": [
  {
    "Isp": String,
    "City": String
  }
]
```

Isthroughput properties

Property	Type	Required	Editable	Description	Constraint
Isp	String	Yes	No	The name or ID of the carrier to which the detection point belongs. Fuzzy query is supported for carrier names.	For more information, see DescribeSiteMonitorISPCityList.
City	String	Yes	No	The name or ID of the city where the detection point resides. Fuzzy query is supported for city names.	None

Response parameters

Fn::GetAtt

TaskId: the ID of the monitoring job.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Address": {
      "Type": "String",
      "Description": "The URL or IP address monitored by the monitoring task."
    },
    "OptionsJson": {
      "Type": "String",
      "Description": "The extended options of the protocol that is used by the site monitoring task. The\noptions vary based on the protocol."
    },
    "TaskName": {
      "Type": "String",
      "Description": "The name of the site monitoring task. The name must be 4 to 100 characters in length.\nIt can contain letters, digits, and underscores (_)."
    },
    "TaskType": {
      "Type": "String",
      "Description": "The protocol used by the site monitoring task. Valid values: HTTP, HTTPS, PING, TCP,\nUDP, DNS, SMTP, POP3, and FTP."
    },
    "IspCities": {
      "Type": "Json",
      "Description": "The information about detection points, which is specified in a JSON array. Example:\n[{\"city\":\"546\",\"isp\":\"465\"},{\"city\":\"572\",\"isp\":\"465\"},{\"city\":\"738\",\"isp\":\"465\"}]. The three city codes represent Beijing, Hangzhou, and Qingdao.\nNote You can call the DescribeSiteMonitorISPCityList API operation to query the detection\npoints that can be used to create site monitoring tasks. For more information, see\nDescribeSiteMonitorISPCityList . If this parameter is not specified, the system randomly selects three detection\npoints for site monitoring."
    },
    "Interval": {
      "Type": "Number",
      "Description": "The interval at which detection requests are sent. Valid values: 1, 5, and 15. Unit:\nminutes. Default value: 1."
    },
    "AlertIds": {
      "Type": "Json",
      "Description": ""
    }
```

```
  },
  "Resources": {
    "SiteMonitor": {
      "Type": "ALIYUN::CMS::SiteMonitor",
      "Properties": {
        "Address": {
          "Ref": "Address"
        },
        "OptionsJson": {
          "Ref": "OptionsJson"
        },
        "TaskName": {
          "Ref": "TaskName"
        },
        "TaskType": {
          "Ref": "TaskType"
        },
        "IspCities": {
          "Ref": "IspCities"
        },
        "Interval": {
          "Ref": "Interval"
        },
        "AlertIds": {
          "Ref": "AlertIds"
        }
      }
    }
  },
  "Outputs": {
    "TaskId": {
      "Description": "The ID of the site monitoring task.",
      "Value": {
        "Fn::GetAtt": [
          "SiteMonitor",
          "TaskId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Address:
    Type: String
    Description: The URL or IP address monitored by the monitoring task.
  OptionsJson:
    Type: String
    Description: >-
      The extended options of the protocol that is used by the site monitoring
      task. The
      options vary based on the protocol.
  TaskName:
    Type: String
    Description: >-
      The name of the site monitoring task. The name must be 4 to 100 characters
      in length.
      It can contain letters, digits, and underscores (_).
  TaskType:
    Type: String
    Description: >-
      The protocol used by the site monitoring task. Valid values: HTTP, HTTPS,
      PING, TCP,
      UDP, DNS, SMTP, POP3, and FTP.
  IspCities:
    Type: Json
    Description: >-
      The information about detection points, which is specified in a JSON
      array. Example:
      [{"city":"546","isp":"465"},{"city":"572","isp":"465"},{"city":"738","isp":"465"}].
      The three city codes represent Beijing, Hangzhou, and Qingdao.
      Note You can call the DescribeSiteMonitorISPCityList API operation to
      query the detection
      points that can be used to create site monitoring tasks. For more
      information, see
      DescribeSiteMonitorISPCityList . If this parameter is not specified, the
      system randomly selects three detection
      points for site monitoring.
  Interval:
    Type: Number
    Description: >-
      The interval at which detection requests are sent. Valid values: 1, 5, and
      15. Unit:
      minutes. Default value: 1.
  AlertIds:
    Type: Json
    Description: ''
Resources:
  SiteMonitor:
    Type: 'ALIYUN::CMS::SiteMonitor'
    Properties:
      Address:
        Ref: Address
      OptionsJson:
        Ref: OptionsJson
      TaskName:
        Ref: TaskName
      TaskType:
        Ref: TaskType
      IspCities:
        Ref: IspCities
      Interval:
        Ref: Interval
      AlertIds:
        Ref: AlertIds
Outputs:
  TaskId:
    Description: The ID of the site monitoring task.
    Value:
      'Fn::GetAtt':
        - SiteMonitor
        - TaskId
```

18.CR

18.1. ALIYUN::CR::InstanceEndpointAclPolicy

ALIYUN::CR::InstanceEndpointAclPolicy is used to create a whitelist for the access port of a public-facing instance.

Syntax

```
{
  "Type": "ALIYUN::CR::InstanceEndpointAclPolicy",
  "Properties": {
    "Comment": String,
    "Entry": String,
    "InstanceId": String,
    "ModuleName": String,
    "EndpointType": String,
    "RegionId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Comment	String	No	No	The description.	None
Entry	String	Yes	No	The CIDR block that you allow to access, such as 192.168.1.1/32.	None
InstanceId	String	Yes	No	The instance ID.	None
ModuleName	String	No	No	The modules for which you need to configure access control list.	Valid values: • Registry • Chart
EndpointType	String	No	No	The type of the access portal.	Value: internet.
Region ID	String	No	No	The region ID.	The default value is the region ID of the stack.

Response parameters

Fn::GetAtt

- Entry: The permitted CIDR block.
- InstanceId: the ID of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Comment": {
      "Type": "String",
      "Description": "The description of the entry."
    },
    "Entry": {
      "Type": "String",
      "Description": "The IP address range that is allowed to access the instance."
    },
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the instance."
    },
    "ModuleName": {
      "Type": "String",
```

```
      "Type": "String",
      "Description": "The name of the module in the instance for which a whitelist is configured. Valid\nvalues: Registry and C
hart.",
      "Default": "Registry"
    },
    "EndpointType": {
      "Type": "String",
      "Description": "The type of the endpoint.",
      "Default": "internet"
    },
    "RegionId": {
      "Type": "String",
      "Description": "Region ID of instance. Default is current region."
    }
  },
  "Resources": {
    "InstanceEndpointAclPolicy": {
      "Type": "ALIYUN::CR::InstanceEndpointAclPolicy",
      "Properties": {
        "Comment": {
          "Ref": "Comment"
        },
        "Entry": {
          "Ref": "Entry"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "ModuleName": {
          "Ref": "ModuleName"
        },
        "EndpointType": {
          "Ref": "EndpointType"
        },
        "RegionId": {
          "Ref": "RegionId"
        }
      }
    }
  },
  "Outputs": {
    "Entry": {
      "Description": "The IP address range that is allowed to access the instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceEndpointAclPolicy",
          "Entry"
        ]
      }
    },
    "InstanceId": {
      "Description": "The ID of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceEndpointAclPolicy",
          "InstanceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Comment:
    Type: String
    Description: The description of the entry.
  Entry:
    Type: String
    Description: The IP address range that is allowed to access the instance.
  InstanceId:
    Type: String
    Description: The ID of the instance.
  ModuleName:
    Type: String
    Description: >-
      The name of the module in the instance for which a whitelist is
      configured. Valid
      values: Registry and Chart.
    Default: Registry
  EndpointType:
    Type: String
    Description: The type of the endpoint.
    Default: internet
  RegionId:
    Type: String
    Description: Region ID of instance. Default is current region.
Resources:
  InstanceEndpointAclPolicy:
    Type: 'ALIYUN::CR::InstanceEndpointAclPolicy'
    Properties:
      Comment:
        Ref: Comment
      Entry:
        Ref: Entry
      InstanceId:
        Ref: InstanceId
      ModuleName:
        Ref: ModuleName
      EndpointType:
        Ref: EndpointType
      RegionId:
        Ref: RegionId
Outputs:
  Entry:
    Description: The IP address range that is allowed to access the instance.
    Value:
      'Fn::GetAtt':
        -InstanceEndpointAclPolicy
        -Entry
  InstanceId:
    Description: The ID of the instance.
    Value:
      'Fn::GetAtt':
        -InstanceEndpointAclPolicy
        - InstanceId
```

18.2. ALIYUN::CR::Repository

ALIYUN::CR::Repository is used to create an image repository.

Syntax

```
{
  "Type": "ALIYUN::CR::Repository",
  "Properties": {
    "RepoNamespace": String,
    "Summary": String,
    "RepoType": String,
    "Detail": String,
    "RepoName": String,
    "RepoSource": Map,
    "InstanceId": String,
    "TagImmutability": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RepoNamespace	String	Yes	No	The namespace to which the image repository belongs.	None.
Summary	String	Yes	Yes	The summary of the image repository.	The summary must be 1 to 100 characters in length.
RepoType	String	Yes	Yes	The type of the image repository.	Valid values: • PUBLIC: the public image repository. Public image repositories support anonymous downloads. • PRIVATE: the private image repository. You must log on to private image repositories before you download images from the repositories.
Detail	String	No	Yes	The description of the image repository.	The Markdown format is supported. The description can be up to 2,000 characters in length.
RepoName	String	Yes	No	The name of the image repository.	The name must be 2 to 64 characters in length, and can contain lowercase letters, digits, periods (.), hyphens (-), and underscores (_).
RepoSource	Map	No	No	The source code repository and image build settings of the image repository.	For more information, see RepoSource properties.
InstanceId	String	No	No	The ID of the instance.	Example: cri-xkx6vujuhay0****.
TagImmutability	Boolean	No	Yes	Specifies whether the tag that is bound to the image repository is immutable.	Valid values: • true: The tag is immutable. • false: The tag is mutable.

RepoSource syntax

```
"RepoSource": {
  "SourceRepoNamespace": String,
  "SourceRepoName": String,
  "IsOversea": Boolean,
  "IsDisableCache": Boolean,
  "SourceRepoType": String,
  "IsAutoBuild": Boolean
}
```

RepoSource properties

Property	Type	Required	Editable	Description	Constraint
SourceRepoNamespace	String	Yes	No	The namespace to which the source code repository belongs.	None.
SourceRepoName	String	Yes	No	The name of the source code repository.	None.
IsOversea	Boolean	Yes	No	Specifies whether to enable image build in data centers outside the Chinese mainland.	Valid values: • true: enables the feature. • false: disable the feature.
IsDisableCache	Boolean	Yes	No	Specifies whether to disable cache for image build.	Valid values: • true: disables the feature. • false: enables the feature.
SourceRepoType	String	Yes	No	The type of the source code repository.	Valid values: • PUBLIC • PRIVATE
IsAutoBuild	Boolean	Yes	No	Specifies whether to enable automatic image build when code changes.	Valid values: • true: enables the feature. • false: disables the feature.

Return values

Fn::GetAtt

- RepoId: the ID of the image repository.
- RepoName: the name of the image repository.
- InstanceId: the ID of the instance.
- RepoType: the type of the image repository.
- RepoNamespace: the name of the image repository namespace.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "RepoNamespace": {
      "Type": "String",
      "Description": "the namespace the repo belongs to",
      "MinLength": 2,
      "MaxLength": 30
    },
    "RepoType": {
      "Type": "String",
      "Description": "repository visibility, public or private",
      "AllowedValues": [
        "PUBLIC",
        "PRIVATE"
      ]
    },
    "RepoName": {
      "Type": "String",
      "Description": "the name of the repo",
      "MinLength": 1,
      "MaxLength": 64
    },
    "Summary": {
```

```
      "Type": "String",
      "Description": "description or something alike",
      "MinLength": 1,
      "MaxLength": 100
    },
    "Detail": {
      "Type": "String",
      "Description": "detailed configuration in markdown format",
      "MaxLength": 2000
    },
    "RepoSource": {
      "Type": "Json",
      "Description": "Code Source message. "
    }
  },
  "Resources": {
    "Repository": {
      "Type": "ALIYUN::CR::Repository",
      "Properties": {
        "RepoNamespace": {
          "Ref": "RepoNamespace"
        },
        "RepoType": {
          "Ref": "RepoType"
        },
        "RepoName": {
          "Ref": "RepoName"
        },
        "Summary": {
          "Ref": "Summary"
        },
        "Detail": {
          "Ref": "Detail"
        },
        "RepoSource": {
          "Ref": "RepoSource"
        }
      }
    }
  },
  "Outputs": {
    "RepoId": {
      "Description": "The repo id",
      "Value": {
        "Fn::GetAtt": [
          "Repository",
          "RepoId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Detail:
    Description: detailed configuration in markdown format
    MaxLength: 2000
    Type: String
  RepoName:
    Description: the name of the repo
    MaxLength: 64
    MinLength: 1
    Type: String
  RepoNamespace:
    Description: the namespace the repo belongs to
    MaxLength: 30
    MinLength: 2
    Type: String
  RepoSource:
    Description: 'Code Source message. '
    Type: Json
  RepoType:
    AllowedValues:
    - PUBLIC
    - PRIVATE
    Description: repository visibility, public or private
    Type: String
  Summary:
    Description: description or something alike
    MaxLength: 100
    MinLength: 1
    Type: String
Resources:
  Repository:
    Properties:
      Detail:
        Ref: Detail
      RepoName:
        Ref: RepoName
      RepoNamespace:
        Ref: RepoNamespace
      RepoSource:
        Ref: RepoSource
      RepoType:
        Ref: RepoType
      Summary:
        Ref: Summary
    Type: ALIYUN::CR::Repository
Outputs:
  RepoId:
    Description: The repo id
    Value:
      Fn::GetAtt:
      - Repository
      - RepoId
```

To view more examples, visit Repository.json and Repository.yml.

18.3. ALIYUN::CR::Namespace

ALIYUN::CR::Namespace is used to create a namespace.

Syntax

```
{
  "Type": "ALIYUN::CR::Namespace",
  "Properties": {
    "Namespace": String,
    "DefaultVisibility": String,
    "AutoCreate": Boolean,
    "InstanceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Namespace	String	Yes	No	The name of the namespace.	The name must be 2 to 30 characters in length, and can contain lowercase letters, digits, hyphens (-), and underscores (_). The name cannot start with a hyphen (-) or underscore (_).
DefaultVisibility	String	No	Yes	The default repository type.	Valid values: • PUBLIC • PRIVATE
AutoCreate	Boolean	No	Yes	Specifies whether the system automatically creates a repository.	Valid values: • true: The system automatically creates a repository. • false: You manually create a repository.
InstanceId	String	No	No	The ID of the instance.	Example: cri-xkx6vujuhay0****.

Return values

Fn::GetAtt

- NamespaceId: the ID of the namespace.
- InstanceId: the ID of the instance.
- Namespace: the name of the namespace.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AutoCreate": {
      "Type": "Boolean",
      "Description": "whether auto create repository",
      "AllowedValues": [
        true,
        false
      ],
      "Default": false
    },
    "DefaultVisibility": {
      "Type": "String",
      "Description": "repository default visibility, public or private",
      "AllowedValues": [
        "PUBLIC",
        "PRIVATE"
      ],
      "Default": "PRIVATE"
    },
    "Namespace": {
      "Type": "String",
      "Description": "domain name",
      "MinLength": 2,
      "MaxLength": 30
    }
  },
  "Resources": {
    "NameSpace": {
      "Type": "ALIYUN::CR::Namespace",
      "Properties": {
        "AutoCreate": {
          "Ref": "AutoCreate"
        },
        "DefaultVisibility": {
          "Ref": "DefaultVisibility"
        },
        "Namespace": {
          "Ref": "Namespace"
        }
      }
    }
  },
  "Outputs": {
    "NamespaceId": {
      "Description": "The namespace id",
      "Value": {
        "Fn::GetAtt": [
          "NameSpace",
          "NamespaceId"
        ]
      }
    }
  }
}
```

18.4. ALIYUN::CR::UserInfo

ALIYUN::CR::UserInfo is used to create the information about a user.

Syntax

```
{
  "Type": "ALIYUN::CR::UserInfo",
  "Properties": {
    "User": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
User	Map	Yes	Yes	The information about the user.	If the information exists, you can specify this parameter to update the information. For more information, see User syntax and User properties.

User syntax

```
"User": {
  "Password": String
}
```

User properties

Property	Type	Required	Editable	Description	Constraint
Password	String	Yes	Yes	The password of the user account.	The password must be 8 to 32 characters in length. The password must contain at least two of the following character types: letters, digits, and special characters. Special characters include `() ' ~ ! @ # $ % ^ & * - + = | {} [] : ; <> , . ? / -`

Response parameters

Fn::GetAtt

- LoginName: the username of the account that is used for logon.
- UserId: the ID of the user.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "User": {
      "Type": "Json",
      "Description": "User info. If user exists, will update user info.",
      "Default": "{\"Password\": \"Admin****\"}"
    }
  },
  "Resources": {
    "UserInfo": {
      "Type": "ALIYUN::CR::UserInfo",
      "Properties": {
        "User": {
          "Ref": "User"
        }
      }
    }
  },
  "Outputs": {
    "LoginName": {
      "Description": "Login name.",
      "Value": {
        "Fn::GetAtt": [
          "UserInfo",
          "LoginName"
        ]
      }
    },
    "UserId": {
      "Description": "User ID.",
      "Value": {
        "Fn::GetAtt": [
          "UserInfo",
          "UserId"
        ]
      }
    }
  }
}
```

19.CS

19.1. ALIYUN::CS::AnyCluster

ALIYUN::CS::AnyCluster is used to create an ACK cluster of a specific type.

Syntax

```
{
  "Type": "ALIYUN::CS::AnyCluster",
  "Properties": {
    "ClusterConfig": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ClusterConfig	Map	Yes	No	The configurations of the ACK cluster.	For more information, see the topics that describe API operations that you can call to create ACK clusters. For example, if you want to create an ACK managed cluster, see Create an ACK managed cluster.

Return values

Fn::GetAtt

- ClusterId: the ID of the cluster.
- TaskId: the ID of the task. The task ID is assigned by the system and is used to query the status of a task.
- WorkerRamRoleName: the name of the RAM role for worker nodes.
- DefaultUserKubeConfig: the default configurations of user credentials for the ACK cluster.
- ScalingRuleId: the ID of the scaling rule.
- ScalingGroupId: the ID of the scaling group.
- PrivateUserKubConfig: the private configurations of user credentials for the ACK cluster.
- ScalingConfigurationId: the ID of the scaling configuration.
- Nodes: the nodes in the cluster.
- APIServerSLBId: the ID of the Server Load Balancer (SLB) instance that is used by the API server.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId",
      "Label": {
        "en": "VPC",
      }
    },
    "VSwitchIds": {
      "Type": "CommaDelimitedList",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "VpcId": "VpcId"
      },
      "Label": {
        "en": "VSwitchIds",
      }
    },
    "Name": {
      "Type": "String",
      "Description": {
        "en": "Naming rule: The name contains 1 to 63 digits, Chinese characters, English characters, and hyphens (-), and cann
```

```
ot start with a hyphen (-).",
      },
      "Label": {
        "en": "cluster name",
      },
      "Default": "cluster-demo"
    },
    "KubernetesVersion": {
      "Type": "String",
      "Label": {
        "en": "Kubernetes Version",
      },
      "Description": {
        "en": "The version of the Kubernetes cluster.",
      },
      "Default": "1.22.3-aliyun.1"
    },
    "ClusterSpec": {
      "Type": "String",
      "Label": {
        "en": "Cluster Spec",
      },
      "Description": {
        "en": "Cluster type, for managed clusters. Values:\nack.pro.small: Professionally managed cluster, that is, \"ACK Pro e
dition cluster\".\nack.standard: Standard managed cluster.",
      },
      "AllowValues": [
        "ack.pro.small",
        "ack.standard"
      ],
      "Default": "ack.pro.small"
    },
    "NodeCidrMask": {
      "Type": "String",
      "Label": {
        "en": "Node Cidr Mask",
      },
      "Description": {
        "en": "You can specify the network CIDR to determine the number of IP addresses. This takes effect only for Flannel net
work clusters.",
      },
      "Default": "26"
    },
    "ProxyMode": {
      "Type": "String",
      "Label": {
        "en": "Proxy Mode",
      },
      "Description": {
        "en": "The iptables and ipvs modes are supported.",
      },
      "AllowValues": [
        "iptables",
        "ipvs"
      ],
      "Default": "ipvs"
    },
    "LoadBalancerSpec": {
      "Default": "slb.s2.small",
      "AssociationProperty": "ALIYUN::SLB::Instance::InstanceType",
      "Type": "String",
      "Description": {
        "en": "SLB Instance specifications."
      },
      "Label": {
        "en": "Specifications"
      }
    },
    "KeyPairName": {
      "Type": "String",
      "Label": {
        "en": "Key Pair Name",
      },
      "AssociationProperty": "ALIYUN::ECS::KeyPair::KeyPairName",
      "Description": {
```

```
      "Description": {
        "en": "Please enter the name of the existing key pair. If you use the instance password Login, the key pair name does n
ot need to be filled in",
      }
    }
  },
  "Resources": {
    "AnyCluster": {
      "Type": "ALIYUN::CS::AnyCluster",
      "Properties": {
        "ClusterConfig": {
          "name": {
            "Ref": "Name"
          },
          "cluster_type": "ManagedKubernetes",
          "disable_rollback": true,
          "timeout_mins": 60,
          "kubernetes_version": {
            "Ref": "KubernetesVersion"
          },
          "region_id": {
            "Ref": "ALIYUN::Region"
          },
          "snat_entry": true,
          "cloud_monitor_flags": true,
          "endpoint_public_access": false,
          "deletion_protection": true,
          "node_cidr_mask": {
            "Ref": "NodeCidrMask"
          },
          "proxy_mode": {
            "Ref": "ProxyMode"
          },
          "tags": [],
          "timezone": "Asia/Shanghai",
          "addons": [
            {
              "name": "flannel"
            },
            {
              "name": "csi-plugin"
            },
            {
              "name": "csi-provisioner"
            },
            {
              "name": "storage-operator",
              "config": "{\"CnfsOssEnable\":\"false\",\"CnfsNasEnable\":\"true\"}"
            },
            {
              "name": "logtail-ds",
              "config": "{\"IngressDashboardEnabled\":\"true\"}"
            },
            {
              "name": "ack-node-problem-detector",
              "config": "{\"sls_project_name\":\"\"}"
            },
            {
              "name": "nginx-ingress-controller",
              "config": "{\"IngressSlbNetworkType\":\"internet\",\"IngressSlbSpec\":\"slb.s2.small\"}"
            },
            {
              "name": "ack-node-local-dns"
            },
            {
              "name": "arms-prometheus"
            },
            {
              "name": "alicloud-monitor-controller",
              "config": "{\"group_contact_ids\":\"[2066]\"}"
            }
          ],
          "cluster_spec": {
            "Ref": "ClusterSpec"
          },
```

```
        },
        "load_balancer_spec": {
          "Ref": "LoadBalancerSpec"
        },
        "os_type": "Linux",
        "platform": "AliyunLinux",
        "image_type": "AliyunLinux",
        "runtime": {
          "name": "containerd",
          "version": "1.4.8"
        },
        "charge_type": "PostPaid",
        "vpcid": {
          "Ref": "VpcId"
        },
        "container_cidr": "10.9.0.0/16",
        "service_cidr": "172.16.0.0/16",
        "vswitch_ids": {
          "Ref": "VSwitchIds"
        },
        "key_pair": {
          "Ref": "KeyPairName"
        },
        "logging_type": "SLS",
        "cpu_policy": "none",
        "is_enterprise_security_group": true,
        "controlplane_log_ttl": "30",
        "controlplane_log_components": [
          "apiserver",
          "kcm",
          "scheduler",
          "ccm"
        ],
        "nodepools": [
          {
            "nodepool_info": {
              "name": "default-nodepool"
            },
            "scaling_group": {
              "vswitch_ids": {
                "Ref": "VSwitchIds"
              },
              "system_disk_category": "cloud_efficiency",
              "system_disk_size": 120,
              "system_disk_performance_level": "",
              "data_disks": [],
              "instance_types": [
                "ecs.i2ne.xlarge"
              ],
              "tags": [],
              "instance_charge_type": "PostPaid",
              "soc_enabled": false,
              "cis_enabled": false,
              "key_pair": {
                "Ref": "KeyPairName"
              },
              "is_enterprise_security_group": true,
              "platform": "AliyunLinux",
              "image_id": "aliyun_2_1903_x64_20G_alibase_20210726.vhd",
              "image_type": "AliyunLinux",
              "rds_instances": []
            },
            "kubernetes_config": {
              "cpu_policy": "none",
              "labels": [],
              "runtime": "containerd",
              "runtime_version": "1.4.8"
            },
            "count": 3
          }
        ],
        "num_of_nodes": 0
      }
    }
  }
```

```
  },
  "Outputs": {
    "TaskId": {
      "Description": "Task ID. Automatically assigned by the system, the user queries the task status.",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "TaskId"
        ]
      }
    },
    "ClusterId": {
      "Description": "Cluster instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "ClusterId"
        ]
      }
    },
    "ScalingGroupId": {
      "Description": "Scaling group id",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "ScalingGroupId"
        ]
      }
    },
    "ScalingRuleId": {
      "Description": "Scaling rule id",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "ScalingRuleId"
        ]
      }
    },
    "DefaultUserKubeConfig": {
      "Description": "Default user kubernetes config which is used for configuring cluster credentials.",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "DefaultUserKubeConfig"
        ]
      }
    },
    "WorkerRamRoleName": {
      "Description": "Worker ram role name.",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "WorkerRamRoleName"
        ]
      }
    },
    "ScalingConfigurationId": {
      "Description": "Scaling configuration id",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "ScalingConfigurationId"
        ]
      }
    },
    "PrivateUserKubConfig": {
      "Description": "Private user kubernetes config which is used for configuring cluster credentials.",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "PrivateUserKubConfig"
        ]
      }
    },
```

```
    "Nodes": {
      "Description": "The list of cluster nodes.",
      "Value": {
        "Fn::GetAtt": [
          "AnyCluster",
          "Nodes"
        ]
      }
    }
  }
}
```

To view more examples, visit AnyCluster.json and AnyCluster.yml.

19.2. ALIYUN::CS::ClusterNodePool

ALIYUN::CS::ClusterNodePool is used to create a node pool for a cluster.

Syntax

```
{
  "Type": "ALIYUN::CS::ClusterNodePool",
  "Properties": {
    "TeeConfig": Map,
    "ClusterId": String,
    "NodePoolInfo": Map,
    "KubernetesConfig": Map,
    "Count": Integer,
    "Management": Map,
    "AutoScaling": Map,
    "ScalingGroup": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TeeConfig	Map	No	No	The configurations of confidential computing for the cluster.	For more information, see TeeConfig syntax and TeeConfig properties.
ClusterId	String	Yes	No	The ID of the cluster.	You can call the DescribeClustersV1 API operation to query the cluster ID.
NodePoolInfo	Map	No	No	The configurations of the node pool.	For more information, see NodePoolInfo syntax and NodePoolInfo properties.
KubernetesConfig	Map	No	No	The configurations of the cluster.	For more information, see KubernetesConfig syntax and KubernetesConfig properties.
Count	Integer	No	No	The number of nodes in the node pool.	None
Management	Map	No	No	The configurations of the managed node pool.	For more information, see Management syntax and Management properties.
AutoScaling	Map	No	No	The configurations of auto scaling.	For more information, see AutoScaling syntax and AutoScaling properties.

Property	Type	Required	Editable	Description	Constraint
ScalingGroup	Map	Yes	No	The configurations of the scaling group that is used by the node pool.	You can call the DescribeClusterNodePools API operation to query the configurations of the scaling group that is used by the node pool. For more information, see ScalingGroup syntax and ScalingGroup properties.

TeeConfig syntax

```
"TeeConfig": {
  "TeeEnable": Boolean
}
```

TeeConfig properties

Property	Type	Required	Editable	Description	Constraint
TeeEnable	Boolean	Yes	No	Specifies whether to enable confidential computing for the cluster.	Default value: false. Valid values: • true: enables confidential computing for the cluster. • false: disables confidential computing for the cluster.

NodePoolInfo syntax

```
"NodePoolInfo": {
  "ResourceGroupId": String,
  "Name": String
}
```

NodePoolInfo properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	No	The ID of the resource group to which the node pool belongs.	None
Name	String	Yes	No	The name of the node pool.	None

KubernetesConfig syntax

```
"KubernetesConfig": {
  "CpuPolicy": String,
  "Runtime": String,
  "CmsEnabled": Boolean,
  "UserData": String,
  "NodeNameMode": String,
  "RuntimeVersion": String,
  "Labels": List,
  "Unschedulable": Boolean,
  "Taints": List
}
```

KubernetesConfig properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
CpuPolicy	String	No	No	The CPU management policy.	Default value: none. Valid values if the Kubernetes version of the cluster is 1.12.6 or later: static and none. • static: This policy allows pods that have specific resource characteristics on the node to be granted with enhanced CPU affinity and exclusivity. • none: This policy specifies that the default CPU affinity is used.
Runtime	String	Yes	No	The name of the container runtime.	None
CmsEnabled	Boolean	No	No	Specifies whether to install CloudMonitor on Elastic Compute Service (ECS) nodes.	After you install CloudMonitor on ECS nodes, you can view monitoring information about the nodes in the CloudMonitor console. We recommend that you set CmsEnabled to true. Default value: false. Valid values: • true: installs CloudMonitor on ECS nodes. • false: does not install CloudMonitor on ECS nodes.
UserData	String	No	No	The user-defined data.	None
NodeNameMode	String	No	No	The custom name of the node.	A node name consists of a prefix, an IP address substring, and a suffix. The node name must start and end with a lowercase letter or a digit. • The prefix and suffix can contain one or more parts that are separated by periods (.). These parts can contain lowercase letters, digits, and hyphens (-). • The IP address substring consists of 5 to 12 digits that are truncated from the end of the node IP address. For example, if the node IP address is 192.168.0.55, the prefix is aliyun.com, the length of the IP address substring is 5, and the suffix is test, the node name is aliyun.com00055test.
RuntimeVersion	String	Yes	No	The version of the container runtime.	None
Labels	List	No	No	The labels that you want to add to the nodes in the cluster.	For more information, see Labels syntax and Labels properties.
Unschedulable	Boolean	No	No	Specifies whether to schedule the node that is most recently added.	Default value: false. Valid values: • true: schedules the node that is most recently added. You can go to the Nodes page and set the nodes to schedulable. • false: does not schedule the node that is most recently added.
Taints	List	No	No	The taints that you want to add to the nodes.	For more information, see Taints syntax and Taints properties.

Labels syntax

```
"Labels": [
  {
    "Value": String,
    "Key": String
  }
]
```

Labels properties

Property	Type	Required	Editable	Description	Constraint
Value	String	Yes	No	The value of the label.	None
Key	String	Yes	No	The key of the label.	None

Taints syntax

```
"Taints": [
  {
    "Value": String,
    "Effect": String,
    "Key": String
  }
]
```

Taints properties

Property	Type	Required	Editable	Description	Constraint
Value	String	Yes	No	The value of the taint.	None
Effect	String	Yes	No	The scheduling policy.	Default value: NoSchedule. Valid values: • NoSchedule: Pods that do not tolerate this taint are not scheduled to nodes that have this taint. This policy affects only the scheduling process and takes effect only on pods to be scheduled. Scheduled pods are not affected by this policy. • NoExecute: Pods that do not tolerate this taint are removed after you add this taint to the node. • PreferNoSchedule: a "preference" or "soft" version of NoSchedule. Scheduled pods are not affected by this policy.
Key	String	Yes	No	The name of the taint.	None

Management syntax

```
"Management": {
  "UpgradeConfig": Map,
  "AutoRepair": Boolean,
  "Enable": Boolean
}
```

Management properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
UpgradeConfig	Map	No	No	The configurations of automatic upgrade.	This property takes effect only if Enable is set to true. For more information, see UpgradeConfig syntax and UpgradeConfig properties.
AutoRepair	Boolean	No	No	Specifies whether to enable automatic repair.	This property takes effect only if Enable is set to true. Default value: false. Valid values: • true: enables automatic repair. • false: does not enable automatic repair.
Enable	Boolean	Yes	No	Specifies whether to enable the managed node pool.	Default value: false. Valid values: • true: enables the managed node pool. • false: does not enable the managed node pool.

UpgradeConfig syntax

```
"UpgradeConfig": {
  "AutoUpgrade": Boolean,
  "SurgePercentage": Integer,
  "Surge": Integer,
  "MaxUnavailable": Integer
}
```

UpgradeConfig properties

Property	Type	Required	Editable	Description	Constraint
AutoUpgrade	Boolean	No	No	Specifies whether to enable automatic upgrade.	Default value: false. Valid values: • true: enables automatic upgrade. • false: does not enable automatic upgrade.
SurgePercentage	Integer	No	No	The proportion of additional nodes to total nodes.	You cannot specify SurgePercentage and Surge at the same time.
Surge	Integer	No	No	The number of additional nodes.	You cannot specify SurgePercentage and Surge at the same time.
MaxUnavailable	Integer	No	No	The maximum number of nodes that can be in the Unschedulable state.	• Valid values: 1 to 1000. • Default value: 1.

AutoScaling syntax

```
"AutoScaling": {
  "EipBandwidth": Integer,
  "Type": String,
  "IsBondEip": Boolean,
  "MinInstances": Integer,
  "Enable": Boolean,
  "MaxInstances": Integer,
  "EipInternetChargeType": String
}
```

AutoScaling properties

Property	Type	Required	Editable	Description	Constraint
EipBandwidth	Integer	No	No	The peak bandwidth of the elastic IP address (EIP).	None
Type	String	No	No	The type of auto scaling.	Default value: cpu. The valid values of Type vary based on types of instances that are automatically scaled. Valid values: • cpu: regular instance • gpu: GPU-accelerated instance • gpushare: shared GPU-accelerated instance • spot: preemptible instance
IsBondEip	Boolean	No	No	Specifies whether to associate an EIP with the node pool.	Default value: false. Valid values: • true: associates an EIP with the node pool. • false: does not associate an EIP with the node pool.
MinInstances	Integer	No	No	The minimum number of instances that must be contained in the scaling group.	None
Enable	Boolean	Yes	No	Specifies whether to enable auto scaling.	Default value: false. Valid values: • true: enables auto scaling. • false: does not enable auto scaling. If Enable is set to false, other AutoScaling properties do not take effect.
MaxInstances	Integer	No	No	The maximum number of instances that can be contained in the scaling group.	None
EipInternetChargeType	String	No	No	The billing method for network usage of the EIP.	Default value: PayByBandwidth. Valid values: • PayByBandwidth • PayByTraffic

ScalingGroup syntax

```
"ScalingGroup": {
  "SpotInstanceRemedy": Boolean,
  "Platform": String,
  "DataDisks": List,
  "SystemDiskSize": Integer,
  "CompensateWithOnDemand": Boolean,
  "InstanceChargeType": String,
  "OnDemandPercentageAboveBaseCapacity": Integer,
  "AutoRenew": Boolean,
  "OnDemandBaseCapacity": Integer,
  "SystemDiskPerformanceLevel": String,
  "ImageId": String,
  "SpotPriceLimit": List,
  "InstanceTypes": List,
  "Tags": List,
  "SpotStrategy": String,
  "LoginPassword": String,
  "MultiAzPolicy": String,
  "AutoRenewPeriod": Integer,
  "ScalingPolicy": String,
  "KeyPair": String,
  "VSwitchIds": List,
  "SecurityGroupId": String,
  "SpotInstancePools": Integer,
  "Period": Integer,
  "InternetChargeType": String,
  "SystemDiskCategory": String,
  "InternetMaxBandwidthOut": Integer,
  "RdsInstances": List,
  "PeriodUnit": String
}
```

ScalingGroup properties

Property	Type	Required	Editable	Description	Constraint
SpotInstanceRemedy	Boolean	No	No	Specifies whether to use preemptible instances.	Default value: true. Valid values: • true: uses preemptible instances. If this property is set to true, Auto Scaling attempts to create an instance to replace a preemptible instance when Auto Scaling receives a system message, which indicates that the preemptible instance is to be reclaimed. • false: does not use preemptible instances. For more information, see Use preemptible instances.
Platform	String	No	No	The operating system.	Default value: AliyunLinux. Valid values: • CentOS • AliyunLinux • Windows • WindowsCore
DataDisks	List	No	No	The configurations of data disks.	For more information, see DataDisks syntax and DataDisks properties.
SystemDiskSize	Integer	Yes	No	The system disk size of the node.	Unit: GiB. Valid values: 40 to 500.

Property	Type	Required	Editable	Description	Constraint
CompensateWithOnDemand	Boolean	No	No	Specifies whether to automatically create pay-as-you-go instances to meet the requirement on the number of ECS instances if the system cannot create preemptible instances due to reasons such as the price or insufficient inventory. This property takes effect only if MultiAzPolicy is set to COST_OPTIMIZED.	Default value: true. Valid values: • true: automatically creates pay-as-you-go instances to meet the requirement on the number of ECS instances if the system cannot create preemptible instances. • false: does not automatically create pay-as-you-go instances to meet the requirement on the number of ECS instances if the system cannot create preemptible instances.
InstanceChargeType	String	No	No	The billing method for nodes in the node pool.	Default value: PostPaid. Valid values: • PrePaid • PostPaid
OnDemandPercentageAboveBaseCapacity	Integer	No	No	The percentage of pay-as-you-go instances among the extra instances that exceed the number specified by OnDemandBaseCapacity.	Valid values: 0 to 100.
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for nodes in the node pool.	This property takes effect only if instance_charge_type is set to PrePaid. Default value: true. Valid values: • true: enables auto-renewal for nodes in the node pool. • false: does not enable auto-renewal for nodes in the node pool.
OnDemandBaseCapacity	Integer	No	No	The minimum number of pay-as-you-go instances that must be contained in the scaling group.	Valid values: 0 to 1000. If the number of pay-as-you-go instances is less than the value of this property, pay-as-you-go instances are preferentially created.
SystemDiskPerformanceLevel	String	No	No	Specifies the performance level of the enhanced SSD (ESSD).	Valid values: • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS. For more information, see ESSDs.
ImageId	String	No	No	The ID of a custom image.	By default, the image that is provided by ACK is used.

Property	Type	Required	Editable	Description	Constraint
SpotPriceLimit	List	No	No	The maximum hourly price of the instance.	The value of this property can contain up to three decimal places. This property takes effect only if SpotStrategy is set to SpotWithPriceLimit. For more information, see SpotPriceLimit syntax and SpotPriceLimit properties.
InstanceTypes	List	Yes	No	The instance type of preemptible instances.	None
Tags	List	No	No	The tags of the ECS instance.	A tag key must be unique and cannot exceed 128 characters in length. Tag keys and values cannot start with `aliyun` or `acs:` . Tag keys and values cannot contain `https://` or `http://` . For more information, see Tags syntax and Tags properties.
SpotStrategy	String	No	No	The bidding policy of the preemptible instance.	Valid values: • NoSpot: non-preemptible instance. • SpotWithPriceLimit: You must specify the maximum price that you want to pay for the preemptible instance per hour. • SpotAsPriceGo: The system places bids based on the spot price. For more information, see Use preemptible instances.
LoginPassword	String	No	No	The password for SSH logon.	You cannot specify KeyPair and LoginPassword at the same time. The password must be 8 to 30 characters in length and contain the following character types: letters, digits, and special characters. Special characters include `( ) ` ~ ! / @ # $ % ^ & * - _ + = | { } [ ] : ; ' < > , . ?` .

Property	Type	Required	Editable	Description	Constraint
MultiAzPolicy	String	No	No	The ECS instance scaling policy for a multi-zone scaling group.	Default value: PRIORITY. Valid values: • PRIORITY: scales ECS instances based on the priorities of the vSwitches that you specify. If the system cannot create ECS instances in the zone where the vSwitch that has the highest priority resides, the system uses the vSwitch that has the next highest priority to create the ECS instance. • COST_OPTIMIZED: creates ECS instances based on the unit prices of the vCPUs in ascending order. If you specify multiple preemptible instance types in the scaling configuration, preemptible instances are preferentially created. You can configure the CompensateWithOnDemand property to specify whether to automatically create pay-as-you-go instances if the system cannot create preemptible instances due to reasons such as insufficient inventory. Note COST_OPTIMIZED takes effect only if you specify multiple instance types or if you specify at least one preemptible instance type. • BALANCE: evenly distributes ECS instances across zones that are specified in the scaling group. If ECS instances are unevenly distributed across zones due to reasons such as insufficient inventory, you can call the RebalanceInstances API operation to re-distribute ECS instances across zones.
AutoRenewPeriod	Integer	No	No	The auto-renewal period for nodes in the node pool.	This property takes effect and is required only if InstanceChargeType is set to PrePaid and AutoRenew is set to true. Default value: 1. Valid values if PeriodUnit is set to Month: • 1 • 2 • 3 • 6 • 12
ScalingPolicy	String	No	No	The scaling mode of the scaling group.	Default value: release. Valid values: • release: the standard mode. ECS instances are created and are released based on resource usage. • recycle: the swift mode. ECS instances are created, stopped, or started during scaling activities. This reduces the time required for the next scaling activity. When an instance is stopped, you are charged only for the storage service. If on-premises disks are attached to your ECS instances, you are not charged for the storage service.

Property	Type	Required	Editable	Description	Constraint
KeyPair	String	No	No	The name of the key pair that is used to log on to the nodes.	You cannot specify KeyPair and LoginPassword at the same time. **Note** If you create a managed node pool, only KeyPair is supported.
VSwitchIds	List	Yes	No	The ID of the vSwitch.	None
SecurityGroupId	String	No	No	The ID of the security group.	None
SpotInstancePools	Integer	No	No	The number of instance types that are available. The system creates preemptible instances of multiple instance types that are available at the lowest cost in the scaling group.	Valid values: 1 to 10.
Period	Integer	No	No	The auto-renewal period for nodes in the node pool. This property takes effect and is required only if InstanceChargeType is set to PrePaid and AutoRenew is set to true.	Default value: 1. Valid values if PeriodUnit is set to Month: • 1 • 2 • 3 • 6 • 12
InternetChargeType	String	No	No	The billing method for network usage of the EIP.	Default value: PayByBandwidth. Valid values: • PayByBandwidth • PayByTraffic
SystemDiskCategory	String	No	No	The type of the system disk.	Default value: cloud_efficiency. Valid values: • cloud_efficiency: ultra disk • cloud_ssd: standard SSD • cloud_essd: ESSD
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth to the Internet.	Unit: Mbit/s. Valid values: 1 to 100.
RdsInstances	List	No	No	The IDs of ApsaraDB RDS instances.	None
PeriodUnit	String	No	No	The unit of the subscription duration of nodes in the node pool.	This property is required only if InstanceChargeType is set to PrePaid. Valid values: • Month • Year

DataDisks syntax

```
"DataDisks": [
  {
    "Category": String,
    "Encrypted": Boolean,
    "PerformanceLevel": String,
    "Size": Integer,
    "AutoSnapshotPolicyId": String
  }
]
```

DataDisks properties

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The type of the data disk.	Default value: cloud_efficiency. Valid values: • cloud_efficiency: ultra disk • cloud_ssd: standard SSD • cloud_essd: ESSD
Encrypted	Boolean	No	No	Specifies whether to encrypt the data disk.	Default value: false. Valid values: • true: encrypts the data disk. • false: does not encrypt the data disk.
PerformanceLevel	String	No	No	Specifies the performance level of the ESSD.	Valid values: • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS. For more information, see ESSDs.
Size	Integer	No	No	The size of the data disk.	Valid values: 40 to 32768. Default value: 120 Unit: GiB.
AutoSnapshotPolicyId	String	No	No	The ID of an automatic snapshot policy. Automatic backup is performed for a disk based on the specified automatic snapshot policy.	By default, this property is left empty, which specifies that automatic backup is not performed.

SpotPriceLimit syntax

```
"SpotPriceLimit": [
  {
    "PriceLimit": Number,
    "InstanceType": String
  }
]
```

SpotPriceLimit properties

Property	Type	Required	Editable	Description	Constraint
PriceLimit	Number	Yes	No	The price limit for the preemptible instance.	None
InstanceType	String	Yes	No	The instance type of the preemptible instance.	None

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Value	String	Yes	No	The value of the tag.	None
Key	String	Yes	No	The key of the tag.	None

Return values

Fn::GetAtt

NodePoolId: the ID of the cluster node pool.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TeeConfig": {
      "Type": "Json",
      "Description": "The configurations of confidential computing.",
      "Default": "{\n  \"TeeEnable\": true\n}"
    },
    "ClusterId": {
      "Type": "String",
      "Description": "Cluster ID.",
      "Default": "c64ca201b0a4b49agfd****"
    },
    "NodePoolInfo": {
      "Type": "Json",
      "Description": "The configurations of the node pool.",
      "Default": "{\n  \"Name\": \"test\"\n}"
    },
    "KubernetesConfig": {
      "Type": "Json",
      "Description": "The configurations of the ACK cluster.",
      "Default": "{\n  \"CpuPolicy\": \"static\",\n  \"Runtime\": \"containerd\",\n  \"CmsEnabled\": true,\n  \"UserData\": \"e
cho 'hello'\",\n  \"NodeNameMode\": \"customized,aliyun.com,5,test\",\n  \"RuntimeVersion\": \"1.4.8\",\n  \"Unschedulable\": f
alse\n}"
    },
    "Count": {
      "Type": "Number",
      "Description": "The number of nodes in the node pool.",
      "Default": 1
    },
    "Management": {
      "Type": "Json",
      "Description": "The configurations of the managed node pool.",
      "Default": "{\n  \"UpgradeConfig\": {\n    \"AutoUpgrade\": true,\n    \"Surge\": 1,\n    \"MaxUnavailable\": 1\n  },\n
\"AutoRepair\": true,\n  \"Enable\": true\n}"
    },
    "ScalingGroup": {
      "Type": "Json",
      "Description": "The configurations of the scaling group used by the node pool.",
      "Default": "{\n  \"SpotInstanceRemedy\": true,\n  \"Platform\": \"AliyunLinux\",\n  \"SystemDiskSize\": 120,\n  \"Instanc
eChargeType\": \"PostPaid\",\n  \"SystemDiskPerformanceLevel\": \"PL1\",\n  \"ImageId\": \"aliyun_2_1903_x64_20G_alibase_202107
26.vhd\",\n  \"InstanceTypes\": [\n    \"ecs.ebmhfc6.20xlarge\"\n  ],\n  \"LoginPassword\": \"Admin@123\",\n  \"MultiAzPolicy\"
: \"BALANCE\",\n  \"VSwitchIds\": [\n    \"vsw-*****\"\n  ],\n  \"SystemDiskCategory\": \"cloud_essd\",\n  \"InternetMaxBandwid
thOut\": 0\n}"
    }
  },
  "Resources": {
```

```
    "Resources": {
      "ClusterNodePool": {
        "Type": "ALIYUN::CS::ClusterNodePool",
        "Properties": {
          "TeeConfig": {
            "Ref": "TeeConfig"
          },
          "ClusterId": {
            "Ref": "ClusterId"
          },
          "NodePoolInfo": {
            "Ref": "NodePoolInfo"
          },
          "KubernetesConfig": {
            "Ref": "KubernetesConfig"
          },
          "Count": {
            "Ref": "Count"
          },
          "Management": {
            "Ref": "Management"
          },
          "ScalingGroup": {
            "Ref": "ScalingGroup"
          }
        }
      }
    },
    "Outputs": {
      "NodePoolId": {
        "Description": "Cluster node pool ID.",
        "Value": {
          "Fn::GetAtt": [
            "ClusterNodePool",
            "NodePoolId"
          ]
        }
      }
    }
  }
```

19.3. ALIYUN::CS::ManagedEdgeKubernetesCluster

ALIYUN::CS::ManagedEdgeKubernetesCluster is used to create an ACK edge cluster.

Syntax

```
{
  "Type": "ALIYUN::CS::ManagedEdgeKubernetesCluster",
  "Properties": {
    "NumOfNodes": Number,
    "Profile": String,
    "VpcId": String,
    "ServiceCidr": String,
    "Name": String,
    "Tags": List,
    "ProxyMode": String,
    "DisableRollback": Boolean,
    "SnatEntry": Boolean,
    "VSwitchIds": List,
    "LoginPassword": String,
    "WorkerSystemDiskSize": Number,
    "KeyPair": String,
    "Addons": List,
    "WorkerDataDiskCategory": String,
    "EndpointPublicAccess": Boolean,
    "WorkerDataDisk": Boolean,
    "WorkerSystemDiskCategory": String,
    "WorkerDataDiskSize": Integer,
    "TimeoutMins": Number,
    "ClusterSpec": String,
    "ContainerCidr": String,
    "CloudMonitorFlags": Boolean,
    "WorkerInstanceTypes": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
NumOfNodes	Number	Yes	No	The number of worker nodes.	Valid values: 0 to 300.
Profile	String	No	No	The ID of the ACK edge cluster.	Default value: Edge.
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	If you do not specify this parameter, the system creates a VPC whose CIDR block is 192.168.0.0/16. You must specify the VpcId and VSwitchIds parameters or leave both parameters empty.
ServiceCidr	String	No	No	The CIDR block of the Container Service for Kubernetes (ACK) service.	The CIDR block of the service cannot overlap with the CIDR block of the VPC or container. If you use the VPC that is created by the system, the CIDR block 172.19.0.0/20 is used.
Name	String	Yes	No	The name of the cluster.	The name can contain letters, digits, and hyphens (-). It must start with a letter or digit.
Tags	List	No	Yes	The tags of the cluster.	You can specify up to 20 tags. For more information, see ALIYUN::CS::ManagedKubernetesCluster.
					• For network component types, you can use Flannel or Terway when you create the cluster. ○ Set the value in the `[{"Name":"flannel","Config":""}]` format if you use the Flannel component.

Property	Type	Required	Editable	Description	Constraint
Addons	List	No	No	The components that you want to use for the cluster.	○ Set the value in the `[{"Name": "terway-eniip","Config": ""}]` format if you use the Terway component. • For storage component types, you can use Container Storage Interface (CSI) or FlexVolume. ○ Set the value in the `[{"Name":"csi-plugin","Config": ""},{"Name": "csi-provisioner","Config": ""}]` format if you use the CSI component. ○ Set the value in the `[{"Name": "flexvolume","Config": ""}]` format if you use the FlexVolume component. • (Optional) For Log Service component types, you can use an existing Log Service project or create a project. **Note** If you do not activate Log Service, you cannot use the cluster auditing feature. ○ Set the value in the `[{"Name": "logtail-ds","Config": "{\"IngressDashboardEnabled\":\"true\",\"sls_project_name\":\"your_sls_project_name\"}"}]` format if you use an existing project. ○ Set the value in the `[{"Name": "logtail-ds","Config": "{\"IngressDashboardEnabled\":\"true\"}"}]` format if you create a project. • (Optional) For Ingress component types, nginx-ingress-controller is installed in the cluster by default. ○ Set the value in the `[{"Name":"nginx-ingress-controller","Config":"{\"IngressSlbNetworkType\":\"internet\"}"}]` format if you install nginx-ingress-controller and enable Internet access. ○ Set the value in the `[{"Name": "nginx-ingress-controller","Config": "","Disabled": true}]` format if you do not install nginx-ingress-controller. • (Optional) For event center component types, the event center is installed in the cluster by default. You can use Kubernetes event centers to store and query events, and configure alerts. You can use the Logstores that are associated with Kubernetes event centers for free within 90 days. For more information, see Create and use an event center. Set the value in the `[{"Name":"ack-node-problem-detector","Config":"{\"sls_project_name\":\"your_sls_project_name\"}"}]` format if you use the event center component.

Property	Type	Required	Editable	Description	Constraint
					For more information about Addons, see Addons property.
ProxyMode	String	No	No	The kube-proxy mode.	Default value: iptables. Valid values: • iptables • ipvs
DisableRollback	Boolean	No	No	Specifies whether to roll back the cluster if the cluster fails to be created.	Default value: true. Valid values: • true: does not roll back the cluster. • false: rolls back the cluster. **Note** If you set this parameter to false, the resources that are generated when you create the cluster are released. We recommend that you set this parameter to true.
SnatEntry	Boolean	No	No	Specifies whether to configure SNAT rules for the VPC.	Default value: false. Valid values: • true: configures SNAT rules. • false: does not configure SNAT rules. **Note** If you want to use the VPC that is created by the system, set the value to true. If you want to use an existing VPC, set the value based on whether the VPC has Internet access.
VSwitchIds	List	No	No	The IDs of vSwitches.	Valid values: 1 to 3. You must specify the VpcId and VSwitchIds parameters or leave both parameters empty.
LoginPassword	String	No	No	The logon password.	The password must be 8 to 30 characters in length. The password must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `( ) ` ~ ! @ # $ % ^ & * - + = | { } [ ] : ; ' < > , . ? /` You must specify only one of the LoginPassword and KeyPair parameters.
KeyPair	String	No	No	The name of the key pair.	You must specify only one of the LoginPassword and KeyPair parameters.
EndpointPublicAccess	Boolean	No	No	Specifies whether to allow the cluster to access the API server over the Internet.	Default value: true. Valid values: • true: allows the cluster to access the API server over the Internet. • false: allows the cluster to access the API server only over the VPC.
WorkerSystemDiskSize	Number	No	No	The system disk size of worker nodes.	Default value: 120. Unit: GiB.
WorkerSystemDiskCategory	String	No	No	The system disk type of worker nodes.	Default value: cloud_efficiency. Valid values: • cloud_efficiency: the ultra disk • cloud_ssd: the standard SSD • cloud_essd: the enhanced SSD (ESSD)

Property	Type	Required	Editable	Description	Constraint
WorkerDataDisk	Boolean	No	No	Specifies whether to attach a data disk to worker nodes.	Default value: false. Valid values: • true • false
WorkerDataDiskSize	Integer	No	No	The data disk size of worker nodes.	None.
WorkerDataDiskCategory	String	No	No	The type of the data disk.	Default value: cloud_efficiency. Valid values: • cloud_efficiency: the ultra disk • cloud_ssd: the standard SSD • cloud_essd: the ESSD
TimeoutMins	Number	No	No	The timeout period during which you can create the cluster.	Default value: 60. Unit: minutes.
ClusterSpec	String	No	No	The type of the ACK edge cluster.	Default value: ack.standard. Valid values: • ack.pro.small: the ACK edge Pro cluster • ack.standard: the ACK edge standard cluster
ContainerCidr	String	No	No	The CIDR block of the pod.	You must specify this parameter if you create a cluster that uses Flannel. The CIDR block must be one of the following CIDR blocks of the VPC and their subnets: • 10.0.0.0/8 • 172.16-31.0.0/12-16 • 192.168.0.0/16 The CIDR block of the pod cannot overlap with the CIDR block of the VPC in which you deploy the cluster and the CIDR blocks of existing clusters in the VPC. You cannot modify the CIDR block of the pod after you create the cluster. For more information about how to plan CIDR blocks for a cluster, see Plan CIDR blocks for an ACK cluster.
CloudMonitorFlags	Boolean	No	No	Specifies whether to install CloudMonitor agents.	Default value: false. Valid values: • true • false
WorkerInstanceTypes	List	No	No	The instance types of worker nodes.	None.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags property

Field	Type	Required	Editable	Description	Constraint

Field	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 64 characters in length. It cannot start with `aliyun`, `acs:`, `https://`, or `http://`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length. It cannot start with `aliyun`, `acs:`, `http://`, or `https://`.

Addons syntax

```
"Addons": [
  {
    "Disabled": Boolean,
    "Config": String,
    "Name": String
  }
]
```

Addons property

Field	Type	Required	Editable	Description	Constraint
Disabled	Boolean	No	No	Specifies whether to disable automatic installation of the component.	Default value: false. Valid values: • true: disables automatic installation. • false: enables automatic installation.
Config	String	No	No	The configurations of the component.	If you leave this parameter empty, no configurations are required for the component.
Name	String	Yes	No	The name of the component.	None.

Response parameters

Fn::GetAtt

- ClusterId: the ID of the cluster.
- TaskId: the ID of the task in which the cluster is created. The task ID is generated by the system and is used to query task status.
- WorkerRamRoleName: the name of the RAM role for worker nodes.
- DefaultUserKubeConfig: the default configurations of user credentials for the cluster.
- ScalingRuleId: the ID of the scaling rule.
- ScalingGroupId: the ID of the scaling group.
- PrivateUserKubConfig: the private configurations of user credentials for the cluster.
- ScalingConfigurationId: the ID of the scaling configuration.
- Nodes: the nodes in the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "EndpointPublicAccess": {
      "Type": "Boolean",
      "Description": "Whether to enable the public network API Server:\ntrue: which means that the public network API Server is open.\nfalse: If set to false, the API server on the public network will not be created, only the API server on the private network will be created. Default to false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
```

```
    },
    "WorkerPeriod": {
      "Type": "Number",
      "Description": "The duration of the annual and monthly subscription. It takes effect when the worker_instance_charge_type value is PrePaid and is required. The value range is:\nWhen PeriodUnit = Week, Period values are: {\"1\", \"2\", \"3\", \"4\"}\nWhen PeriodUnit = Month, Period values are: {\"1\", \"2\", \"3\", \"4\", \"5\", \"6\", \"7\", \"8\", \"9\", \"12\", \"24\", \"36\", \"48\", \"60\"}\nDefault to 1.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36,
        48,
        60
      ],
      "Default": 1
    },
    "WorkerPeriodUnit": {
      "Type": "String",
      "Description": "When you specify PrePaid, you need to specify the period. The options are:\nWeek: Time is measured in weeks\nMonth: time in months\nDefault to Month.",
      "AllowedValues": [
        "Week",
        "Month"
      ],
      "Default": "Month"
    },
    "MasterSystemDiskCategory": {
      "Type": "String",
      "Description": "Master disk system disk type. The value includes:\ncloud_efficiency: efficient cloud disk\ncloud_ssd: SSD cloud disk\ncloud_essd: ESSD cloud diskDefault to cloud_ssd.",
      "Default": "cloud_ssd"
    },
    "Addons": {
      "Type": "Json",
      "Description": "A combination of addon plugins for Kubernetes clusters.\nNetwork plug-in: including Flannel and Terway network plug-ins\nLog service: Optional. If the log service is not enabled, the cluster audit function cannot be used.\nIngress: The installation of the Ingress component is enabled by default."
    },
    "MasterSystemDiskSize": {
      "Type": "Number",
      "Description": "Master disk system disk size in GiB.\nDefault to 120.",
      "MinValue": 1,
      "Default": 120
    },
    "WorkerSystemDiskCategory": {
      "Type": "String",
      "Description": "Worker node system disk type. The value includes:\ncloud_efficiency: efficient cloud disk\ncloud_ssd: SSD cloud disk\nDefault to cloud_efficiency.",
      "Default": "cloud_efficiency"
    },
    "NodePortRange": {
      "Type": "String",
      "Description": "Node service port. The value range is [30000, 65535].\nDefault to 30000-65535.",
      "Default": "30000-65535"
    },
    "MasterCount": {
      "Type": "Number",
      "Description": "Number of master instances. The value can be 3 or 5. The default value is 3.",
      "AllowedValues": [
        3,
        5
      ],
      "Default": 3
    },
    "WorkerSystemDiskSize": {
      "Type": "Number",
```

```
      "Description": "Worker disk system disk size, the unit is GiB.\nDefault to 120.",
      "MinValue": 1,
      "Default": 120
    },
    "SshFlags": {
      "Type": "Boolean",
      "Description": "Whether to enable public network SSH login:\ntrue: open\nfalse: not open",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "MasterVSwitchIds": {
      "Type": "CommaDelimitedList",
      "Description": "Master node switch ID. To ensure high availability of the cluster, it is recommended that you select 3 sw
itches and distribute them in different Availability Zones.",
      "MinLength": 1,
      "MaxLength": 3
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the cluster. The cluster name can use uppercase and lowercase letters, Chinese characters, nu
mbers, and dashes."
    },
    "Taint": {
      "Type": "Json",
      "Description": "It is used to mark nodes with taints. It is usually used for the scheduling strategy of Pods. The corresp
onding concept is: tolerance. If there is a corresponding tolerance mark on the Pods, the stain on the node can be tolerated an
d scheduled to the node."
    },
    "MasterDataDisks": {
      "Type": "Json",
      "Description": "Master data disk type, size and other configuration combinations. This parameter is valid only when the m
aster node data disk is mounted."
    },
    "Runtime": {
      "Type": "Json",
      "Description": "The container runtime of the cluster. The default runtime is Docker."
    },
    "CloudMonitorFlags": {
      "Type": "Boolean",
      "Description": "Whether to install the cloud monitoring plugin:\ntrue: indicates installation\nfalse: Do not install\nDef
ault to false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "ServiceCidr": {
      "Type": "String",
      "Description": "The service network segment cannot conflict with the VPC network segment and the container network segmen
t. When the system is selected to automatically create a VPC, the network segment 172.19.0.0/20 is used by default.",
      "Default": "172.19.0.0/20"
    },
    "PodVswitchIds": {
      "Type": "Json",
      "Description": "The list of pod vSwitches. For each vSwitch that is allocated to nodes, \n you must specify at least one
pod vSwitch in the same zone. \n The pod vSwitches cannot be the same as the node vSwitches. \n We recommend that you set the m
ask length of the CIDR block to a value no \ngreater than 19 for the pod vSwitches.\nThe pod_vswitch_ids parameter is required
when the Terway network \nplug-in is selected for the cluster."
    },
    "WorkerAutoRenew": {
      "Type": "Boolean",
      "Description": "Whether to enable automatic renewal of Worker nodes. The optional values are:\ntrue: automatic renewal\nf
alse: do not renew automatically\nDefault to true.",
      "AllowedValues": [
        "True",
        "true",
        "False",
```

```
        "false"
      ],
      "Default": true
    },
    "ProxyMode": {
      "Type": "String",
      "Description": "kube-proxy proxy mode, supports both iptables and ipvs modes. The default is iptables.",
      "Default": "iptables"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tag the cluster."
    },
    "DisableRollback": {
      "Type": "Boolean",
      "Description": "Whether the failure was rolled back:\ntrue: indicates that it fails to roll back\nfalse: rollback failed\
nThe default is true. If rollback fails, resources produced during the creation process will be released. False is not recommen
ded.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": true
    },
    "WorkerInstanceTypes": {
      "Type": "Json",
      "Description": "Worker node ECS specification type code. For more details, see Instance Specification Family.",
      "MinLength": 1,
      "MaxLength": 10
    },
    "LoginPassword": {
      "Type": "String",
      "Description": "SSH login password. Password rules are 8-30 characters and contain three items (upper and lower case lett
ers, numbers, and special symbols). Specify one of KeyPair or LoginPassword."
    },
    "MasterPeriod": {
      "Type": "Number",
      "Description": "The duration of the annual subscription and monthly subscription. It takes effect when the master_instanc
e_charge_type value is PrePaid and is a required value. The value range is:\nWhen PeriodUnit = Week, Period values are: {\"1\",
\"2\", \"3\", \"4\"}\nWhen PeriodUnit = Month, Period values are: {\"1\", \"2\", \"3\", \"4\", \"5\", \"6\", \"7\", \"8\", \"9\
", \"12\", \"24\", \"36\", \"48\", \"60\"}\nDefault to 1.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36,
        48,
        60
      ],
      "Default": 1
    },
    "KubernetesVersion": {
      "Type": "String",
      "Description": "The version of the Kubernetes cluster."
    },
    "MasterInstanceChargeType": {
      "Type": "String",
      "Description": "Master node payment type. The optional values are:\nPrePaid: prepaid\nPostPaid: Pay as you go\nDefault to
PostPaid.",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
```

```
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "ContainerCidr": {
      "Type": "String",
      "Description": "The container network segment cannot conflict with the VPC network segment. When the sytem is selected to automatically create a VPC, the network segment 172.16.0.0/16 is used by default.",
      "Default": "172.16.0.0/16"
    },
    "WorkerInstanceChargeType": {
      "Type": "String",
      "Description": "Worker node payment type. The optional values are:\nPrePaid: prepaid\nPostPaid: Pay as you go\nDefault to PostPaid.",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "CpuPolicy": {
      "Type": "String",
      "Description": "CPU policy. The cluster version is 1.12.6 and above supports both static and none strategies."
    },
    "KeyPair": {
      "Type": "String",
      "Description": "Key pair name. Specify one of KeyPair or LoginPassword."
    },
    "MasterInstanceTypes": {
      "Type": "CommaDelimitedList",
      "Description": "Master node ECS specification type code. For more details, see Instance Type Family. Each item correspond to MasterVSwitchIds.\nList size must be 3, Instance Type can be repeated.",
      "MinLength": 3,
      "MaxLength": 3
    },
    "WorkerDataDisks": {
      "Type": "Json",
      "Description": "A combination of configurations such as worker data disk type and size. This parameter is valid only when the worker node data disk is mounted."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Specifies the ID of the security group to which the cluster ECS instance belongs."
    },
    "TimeoutMins": {
      "Type": "Number",
      "Description": "Cluster resource stack creation timeout, in minutes. The default value is 60.",
      "Default": 60
    },
    "MasterPeriodUnit": {
      "Type": "String",
      "Description": "When you specify PrePaid, you need to specify the period. The options are:\nWeek: Time is measured in weeks\nMonth: time in months\nDefault to Month",
      "AllowedValues": [
        "Week",
        "Month"
      ],
      "Default": "Month"
    },
    "MasterAutoRenewPeriod": {
      "Type": "Number",
      "Description": "Automatic renewal cycle, which takes effect when prepaid and automatic renewal are selected, and is required:\nWhen PeriodUnit = Week, the values are: {\"1\", \"2\", \"3\"}\nWhen PeriodUnit = Month, the value is {\"1\", \"2\", \"3\", \"6\", \"12\"}\nDefault to 1.",
      "AllowedValues": [
```

```
        1,
        2,
        3,
        6,
        12
      ],
      "Default": 1
    },
    "WorkerDataDisk": {
      "Type": "Boolean",
      "Description": "Whether to mount the data disk. The options are as follows:\ntrue: indicates that the worker node mounts
data disks.\nfalse: indicates that the worker node does not mount data disks.\nDefault to false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "VpcId": {
      "Type": "String",
      "Description": "VPC ID."
    },
    "NumOfNodes": {
      "Type": "Number",
      "Description": "Number of worker nodes. The range is [0,300].\nDefault to 3.",
      "MinValue": 0,
      "MaxValue": 300,
      "Default": 3
    },
    "MasterAutoRenew": {
      "Type": "Boolean",
      "Description": "Whether the master node automatically renews. It takes effect when the value of MasterInstanceChargeType
is PrePaid. The optional values are:\ntrue: automatic renewal\nfalse: do not renew automatically\nDefault to true.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": true
    },
    "WorkerAutoRenewPeriod": {
      "Type": "Number",
      "Description": "Automatic renewal cycle, which takes effect when prepaid and automatic renewal are selected, and is requi
red:\nWhen PeriodUnit = Week, the values are: {\"1\", \"2\", \"3\"}\nWhen PeriodUnit = Month, the value is {\"1\", \"2\", \"3\"
, \"6\", \"12\"}\nDefault to 1.",
      "AllowedValues": [
        1,
        2,
        3,
        6,
        12
      ],
      "Default": 1
    },
    "WorkerVSwitchIds": {
      "Type": "CommaDelimitedList",
      "Description": "The virtual switch ID of the worker node.",
      "MinLength": 1
    },
    "SnatEntry": {
      "Type": "Boolean",
      "Description": "Whether to configure SNAT for the network.\nWhen a VPC can access the public network environment, set it
to false.\nWhen an existing VPC cannot access the public network environment:\nWhen set to True, SNAT is configured and the pub
lic network environment can be accessed at this time.\nIf set to false, it means that SNAT is not configured and the public net
work environment cannot be accessed at this time.\nDefault to true.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
```

```
      "Default": true
    },
    "MasterDataDisk": {
      "Type": "Boolean",
      "Description": "Whether the master node mounts data disks can be selected as:\ntrue: mount the data disk\nfalse: no data
disk is mounted, default is false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    }
  },
  "Resources": {
    "KubernetesCluster": {
      "Type": "ALIYUN::CS::KubernetesCluster",
      "Properties": {
        "EndpointPublicAccess": {
          "Ref": "EndpointPublicAccess"
        },
        "WorkerPeriod": {
          "Ref": "WorkerPeriod"
        },
        "WorkerPeriodUnit": {
          "Ref": "WorkerPeriodUnit"
        },
        "MasterSystemDiskCategory": {
          "Ref": "MasterSystemDiskCategory"
        },
        "Addons": {
          "Ref": "Addons"
        },
        "MasterSystemDiskSize": {
          "Ref": "MasterSystemDiskSize"
        },
        "WorkerSystemDiskCategory": {
          "Ref": "WorkerSystemDiskCategory"
        },
        "NodePortRange": {
          "Ref": "NodePortRange"
        },
        "MasterCount": {
          "Ref": "MasterCount"
        },
        "WorkerSystemDiskSize": {
          "Ref": "WorkerSystemDiskSize"
        },
        "SshFlags": {
          "Ref": "SshFlags"
        },
        "MasterVSwitchIds": {
          "Ref": "MasterVSwitchIds"
        },
        "Name": {
          "Ref": "Name"
        },
        "Taint": {
          "Ref": "Taint"
        },
        "MasterDataDisks": {
          "Ref": "MasterDataDisks"
        },
        "Runtime": {
          "Ref": "Runtime"
        },
        "CloudMonitorFlags": {
          "Ref": "CloudMonitorFlags"
        },
        "ServiceCidr": {
          "Ref": "ServiceCidr"
        },
        "PodVswitchIds": {
          "Ref": "PodVswitchIds"
```

```
        "Ref": "PodVSwitchIds"
      },
      "WorkerAutoRenew": {
        "Ref": "WorkerAutoRenew"
      },
      "ProxyMode": {
        "Ref": "ProxyMode"
      },
      "Tags": {
        "Ref": "Tags"
      },
      "DisableRollback": {
        "Ref": "DisableRollback"
      },
      "WorkerInstanceTypes": {
        "Ref": "WorkerInstanceTypes"
      },
      "LoginPassword": {
        "Ref": "LoginPassword"
      },
      "MasterPeriod": {
        "Ref": "MasterPeriod"
      },
      "KubernetesVersion": {
        "Ref": "KubernetesVersion"
      },
      "MasterInstanceChargeType": {
        "Ref": "MasterInstanceChargeType"
      },
      "ContainerCidr": {
        "Ref": "ContainerCidr"
      },
      "WorkerInstanceChargeType": {
        "Ref": "WorkerInstanceChargeType"
      },
      "CpuPolicy": {
        "Ref": "CpuPolicy"
      },
      "KeyPair": {
        "Ref": "KeyPair"
      },
      "MasterInstanceTypes": {
        "Ref": "MasterInstanceTypes"
      },
      "WorkerDataDisks": {
        "Ref": "WorkerDataDisks"
      },
      "SecurityGroupId": {
        "Ref": "SecurityGroupId"
      },
      "TimeoutMins": {
        "Ref": "TimeoutMins"
      },
      "MasterPeriodUnit": {
        "Ref": "MasterPeriodUnit"
      },
      "MasterAutoRenewPeriod": {
        "Ref": "MasterAutoRenewPeriod"
      },
      "WorkerDataDisk": {
        "Ref": "WorkerDataDisk"
      },
      "VpcId": {
        "Ref": "VpcId"
      },
      "NumOfNodes": {
        "Ref": "NumOfNodes"
      },
      "MasterAutoRenew": {
        "Ref": "MasterAutoRenew"
      },
      "WorkerAutoRenewPeriod": {
        "Ref": "WorkerAutoRenewPeriod"
      },
      "WorkerVSwitchIds": {
```

```
          "Ref": "WorkerVSwitchIds"
        },
        "SnatEntry": {
          "Ref": "SnatEntry"
        },
        "MasterDataDisk": {
          "Ref": "MasterDataDisk"
        }
      }
    }
  },
  "Outputs": {
    "TaskId": {
      "Description": "Task ID. Automatically assigned by the system, the user queries the task status.",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "TaskId"
        ]
      }
    },
    "ClusterId": {
      "Description": "Cluster instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "ClusterId"
        ]
      }
    },
    "ScalingGroupId": {
      "Description": "Scaling group id",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "ScalingGroupId"
        ]
      }
    },
    "ScalingRuleId": {
      "Description": "Scaling rule id",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "ScalingRuleId"
        ]
      }
    },
    "DefaultUserKubeConfig": {
      "Description": "Default user kubernetes config which is used for configuring cluster credentials.",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "DefaultUserKubeConfig"
        ]
      }
    },
    "WorkerRamRoleName": {
      "Description": "Worker ram role name.",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "WorkerRamRoleName"
        ]
      }
    },
    "ScalingConfigurationId": {
      "Description": "Scaling configuration id",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "ScalingConfigurationId"
        ]
      }
```

```
    },
    "PrivateUserKubConfig": {
      "Description": "Private user kubernetes config which is used for configuring cluster credentials.",
      "Value": {
        "Fn::GetAtt": [
          "KubernetesCluster",
          "PrivateUserKubConfig"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Addons:
    Description: 'A combination of addon plugins for Kubernetes clusters.
      Network plug-in: including Flannel and Terway network plug-ins
      Log service: Optional. If the log service is not enabled, the cluster audit
      function cannot be used.
      Ingress: The installation of the Ingress component is enabled by default.'
    Type: Json
  CloudMonitorFlags:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to install the cloud monitoring plugin:
      true: indicates installation
      false: Do not install
      Default to false'
    Type: Boolean
  ContainerCidr:
    Default: 172.16.0.0/16
    Description: The container network segment cannot conflict with the VPC network
      segment. When the sytem is selected to automatically create a VPC, the network
      segment 172.16.0.0/16 is used by default.
    Type: String
  CpuPolicy:
    Description: CPU policy. The cluster version is 1.12.6 and above supports both
      static and none strategies.
    Type: String
  DisableRollback:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: true
    Description: 'Whether the failure was rolled back:
      true: indicates that it fails to roll back
      false: rollback failed
      The default is true. If rollback fails, resources produced during the creation
      process will be released. False is not recommended.'
    Type: Boolean
  EndpointPublicAccess:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to enable the public network API Server:
      true: which means that the public network API Server is open.
      false: If set to false, the API server on the public network will not be created,
      only the API server on the private network will be created. Default to false.'
    Type: Boolean
  KeyPair:
    Description: Key pair name. Specify one of KeyPair or LoginPassword.
    Type: String
```

```
    Type: String
  KubernetesVersion:
    Description: The version of the Kubernetes cluster.
    Type: String
  LoginPassword:
    Description: SSH login password. Password rules are 8-30 characters and contain
      three items (upper and lower case letters, numbers, and special symbols). Specify
      one of KeyPair or LoginPassword.
    Type: String
  MasterAutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: true
    Description: 'Whether the master node automatically renews. It takes effect when
      the value of MasterInstanceChargeType is PrePaid. The optional values are:
      true: automatic renewal
      false: do not renew automatically
      Default to true.'
    Type: Boolean
  MasterAutoRenewPeriod:
    AllowedValues:
    - 1
    - 2
    - 3
    - 6
    - 12
    Default: 1
    Description: 'Automatic renewal cycle, which takes effect when prepaid and automatic
      renewal are selected, and is required:
      When PeriodUnit = Week, the values are: {"1", "2", "3"}
      When PeriodUnit = Month, the value is {"1", "2", "3", "6", "12"}
      Default to 1.'
    Type: Number
  MasterCount:
    AllowedValues:
    - 3
    - 5
    Default: 3
    Description: Number of master instances. The value can be 3 or 5. The default
      value is 3.
    Type: Number
  MasterDataDisk:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether the master node mounts data disks can be selected as:
      true: mount the data disk
      false: no data disk is mounted, default is false'
    Type: Boolean
  MasterDataDisks:
    Description: Master data disk type, size and other configuration combinations.
      This parameter is valid only when the master node data disk is mounted.
    Type: Json
  MasterInstanceChargeType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: PostPaid
    Description: 'Master node payment type. The optional values are:
      PrePaid: prepaid
      PostPaid: Pay as you go
      Default to PostPaid.'
    Type: String
```

```
    Type: String
  MasterInstanceTypes:
    Description: 'Master node ECS specification type code. For more details, see Instance
      Type Family. Each item correspond to MasterVSwitchIds.
      List size must be 3, Instance Type can be repeated.'
    MaxLength: 3
    MinLength: 3
    Type: CommaDelimitedList
  MasterPeriod:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    - 48
    - 60
    Default: 1
    Description: 'The duration of the annual subscription and monthly subscription.
      It takes effect when the master_instance_charge_type value is PrePaid and is
      a required value. The value range is:
      When PeriodUnit = Week, Period values are: {"1", "2", "3", "4"}
      When PeriodUnit = Month, Period values are: {"1", "2", "3", "4", "5", "6", "7",
      "8", "9", "12", "24", "36", "48", "60"}
      Default to 1.'
    Type: Number
  MasterPeriodUnit:
    AllowedValues:
    - Week
    - Month
    Default: Month
    Description: 'When you specify PrePaid, you need to specify the period. The options
      are:
      Week: Time is measured in weeks
      Month: time in months
      Default to Month'
    Type: String
  MasterSystemDiskCategory:
    Default: cloud_ssd
    Description: 'Master disk system disk type. The value includes:
      cloud_efficiency: efficient cloud disk
      cloud_ssd: SSD cloud disk
      cloud_essd: ESSD cloud diskDefault to cloud_ssd.'
    Type: String
  MasterSystemDiskSize:
    Default: 120
    Description: 'Master disk system disk size in GiB.
      Default to 120.'
    MinValue: 1
    Type: Number
  MasterVSwitchIds:
    Description: Master node switch ID. To ensure high availability of the cluster,
      it is recommended that you select 3 switches and distribute them in different
      Availability Zones.
    MaxLength: 3
    MinLength: 1
    Type: CommaDelimitedList
  Name:
    Description: The name of the cluster. The cluster name can use uppercase and lowercase
      letters, Chinese characters, numbers, and dashes.
    Type: String
  NodePortRange:
    Default: 30000-65535
    Description: 'Node service port. The value range is [30000, 65535].
      Default to 30000-65535.'
    Type: String
  NumOfNodes:
    Default: 3
```

```
    Description: 'Number of worker nodes. The range is [0,300].
      Default to 3.'
    MaxValue: 300
    MinValue: 0
    Type: Number
  PodVswitchIds:
    Description: "The list of pod vSwitches. For each vSwitch that is allocated to\
      \ nodes, \n you must specify at least one pod vSwitch in the same zone. \n The\
      \ pod vSwitches cannot be the same as the node vSwitches. \n We recommend that\
      \ you set the mask length of the CIDR block to a value no \ngreater than 19\
      \ for the pod vSwitches.\nThe pod_vswitch_ids parameter is required when the\
      \ Terway network \nplug-in is selected for the cluster."
    Type: Json
  ProxyMode:
    Default: iptables
    Description: kube-proxy proxy mode, supports both iptables and ipvs modes. The
      default is iptables.
    Type: String
  Runtime:
    Description: The container runtime of the cluster. The default runtime is Docker.
    Type: Json
  SecurityGroupId:
    Description: Specifies the ID of the security group to which the cluster ECS instance
      belongs.
    Type: String
  ServiceCidr:
    Default: 172.19.0.0/20
    Description: The service network segment cannot conflict with the VPC network
      segment and the container network segment. When the system is selected to automatically
      create a VPC, the network segment 172.19.0.0/20 is used by default.
    Type: String
  SnatEntry:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: true
    Description: 'Whether to configure SNAT for the network.
      When a VPC can access the public network environment, set it to false.
      When an existing VPC cannot access the public network environment:
      When set to True, SNAT is configured and the public network environment can
      be accessed at this time.
      If set to false, it means that SNAT is not configured and the public network
      environment cannot be accessed at this time.
      Default to true.'
    Type: Boolean
  SshFlags:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Whether to enable public network SSH login:
      true: open
      false: not open'
    Type: Boolean
  Tags:
    Description: Tag the cluster.
    Type: Json
  Taint:
    Description: 'It is used to mark nodes with taints. It is usually used for the
      scheduling strategy of Pods. The corresponding concept is: tolerance. If there
      is a corresponding tolerance mark on the Pods, the stain on the node can be
      tolerated and scheduled to the node.'
    Type: Json
  TimeoutMins:
    Default: 60
    Description: Cluster resource stack creation timeout, in minutes. The default
      value is 60.
    Type: Number
  VpcId:
    Description: VPC ID.
    Type: String
```

```
  WorkerAutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: true
    Description: 'Whether to enable automatic renewal of Worker nodes. The optional
      values are:
      true: automatic renewal
      false: do not renew automatically
      Default to true.'
    Type: Boolean
  WorkerAutoRenewPeriod:
    AllowedValues:
    - 1
    - 2
    - 3
    - 6
    - 12
    Default: 1
    Description: 'Automatic renewal cycle, which takes effect when prepaid and automatic
      renewal are selected, and is required:
      When PeriodUnit = Week, the values are: {"1", "2", "3"}
      When PeriodUnit = Month, the value is {"1", "2", "3", "6", "12"}
      Default to 1.'
    Type: Number
  WorkerDataDisk:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to mount the data disk. The options are as follows:
      true: indicates that the worker node mounts data disks.
      false: indicates that the worker node does not mount data disks.
      Default to false.'
    Type: Boolean
  WorkerDataDisks:
    Description: A combination of configurations such as worker data disk type and
      size. This parameter is valid only when the worker node data disk is mounted.
    Type: Json
  WorkerInstanceChargeType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: PostPaid
    Description: 'Worker node payment type. The optional values are:
      PrePaid: prepaid
      PostPaid: Pay as you go
      Default to PostPaid.'
    Type: String
  WorkerInstanceTypes:
    Description: Worker node ECS specification type code. For more details, see Instance
      Specification Family.
    MaxLength: 10
    MinLength: 1
    Type: Json
  WorkerPeriod:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
```

```
    - 8
    - 9
    - 12
    - 24
    - 36
    - 48
    - 60
    Default: 1
    Description: 'The duration of the annual and monthly subscription. It takes effect
      when the worker_instance_charge_type value is PrePaid and is required. The value
      range is:
      When PeriodUnit = Week, Period values are: {"1", "2", "3", "4"}
      When PeriodUnit = Month, Period values are: {"1", "2", "3", "4", "5", "6", "7",
      "8", "9", "12", "24", "36", "48", "60"}
      Default to 1.'
    Type: Number
  WorkerPeriodUnit:
    AllowedValues:
    - Week
    - Month
    Default: Month
    Description: 'When you specify PrePaid, you need to specify the period. The options
      are:
      Week: Time is measured in weeks
      Month: time in months
      Default to Month.'
    Type: String
  WorkerSystemDiskCategory:
    Default: cloud_efficiency
    Description: 'Worker node system disk type. The value includes:
      cloud_efficiency: efficient cloud disk
      cloud_ssd: SSD cloud disk
      Default to cloud_efficiency.'
    Type: String
  WorkerSystemDiskSize:
    Default: 120
    Description: 'Worker disk system disk size, the unit is GiB.
      Default to 120.'
    MinValue: 1
    Type: Number
  WorkerVSwitchIds:
    Description: The virtual switch ID of the worker node.
    MinLength: 1
    Type: CommaDelimitedList
Resources:
  KubernetesCluster:
    Properties:
      Addons:
        Ref: Addons
      CloudMonitorFlags:
        Ref: CloudMonitorFlags
      ContainerCidr:
        Ref: ContainerCidr
      CpuPolicy:
        Ref: CpuPolicy
      DisableRollback:
        Ref: DisableRollback
      EndpointPublicAccess:
        Ref: EndpointPublicAccess
      KeyPair:
        Ref: KeyPair
      KubernetesVersion:
        Ref: KubernetesVersion
      LoginPassword:
        Ref: LoginPassword
      MasterAutoRenew:
        Ref: MasterAutoRenew
      MasterAutoRenewPeriod:
        Ref: MasterAutoRenewPeriod
      MasterCount:
        Ref: MasterCount
      MasterDataDisk:
        Ref: MasterDataDisk
      MasterDataDisks:
```

```
        Ref: MasterDataDisks
      MasterInstanceChargeType:
        Ref: MasterInstanceChargeType
      MasterInstanceTypes:
        Ref: MasterInstanceTypes
      MasterPeriod:
        Ref: MasterPeriod
      MasterPeriodUnit:
        Ref: MasterPeriodUnit
      MasterSystemDiskCategory:
        Ref: MasterSystemDiskCategory
      MasterSystemDiskSize:
        Ref: MasterSystemDiskSize
      MasterVSwitchIds:
        Ref: MasterVSwitchIds
      Name:
        Ref: Name
      NodePortRange:
        Ref: NodePortRange
      NumOfNodes:
        Ref: NumOfNodes
      PodVswitchIds:
        Ref: PodVswitchIds
      ProxyMode:
        Ref: ProxyMode
      Runtime:
        Ref: Runtime
      SecurityGroupId:
        Ref: SecurityGroupId
      ServiceCidr:
        Ref: ServiceCidr
      SnatEntry:
        Ref: SnatEntry
      SshFlags:
        Ref: SshFlags
      Tags:
        Ref: Tags
      Taint:
        Ref: Taint
      TimeoutMins:
        Ref: TimeoutMins
      VpcId:
        Ref: VpcId
      WorkerAutoRenew:
        Ref: WorkerAutoRenew
      WorkerAutoRenewPeriod:
        Ref: WorkerAutoRenewPeriod
      WorkerDataDisk:
        Ref: WorkerDataDisk
      WorkerDataDisks:
        Ref: WorkerDataDisks
      WorkerInstanceChargeType:
        Ref: WorkerInstanceChargeType
      WorkerInstanceTypes:
        Ref: WorkerInstanceTypes
      WorkerPeriod:
        Ref: WorkerPeriod
      WorkerPeriodUnit:
        Ref: WorkerPeriodUnit
      WorkerSystemDiskCategory:
        Ref: WorkerSystemDiskCategory
      WorkerSystemDiskSize:
        Ref: WorkerSystemDiskSize
      WorkerVSwitchIds:
        Ref: WorkerVSwitchIds
    Type: ALIYUN::CS::KubernetesCluster
Outputs:
  ClusterId:
    Description: Cluster instance ID.
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - ClusterId
  DefaultUserKubeConfig:
```

```
    Description: Default user kubernetes config which is used for configuring cluster
      credentials.
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - DefaultUserKubeConfig
  PrivateUserKubConfig:
    Description: Private user kubernetes config which is used for configuring cluster
      credentials.
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - PrivateUserKubConfig
  ScalingConfigurationId:
    Description: Scaling configuration id
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - ScalingConfigurationId
  ScalingGroupId:
    Description: Scaling group id
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - ScalingGroupId
  ScalingRuleId:
    Description: Scaling rule id
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - ScalingRuleId
  TaskId:
    Description: Task ID. Automatically assigned by the system, the user queries the
      task status.
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - TaskId
  WorkerRamRoleName:
    Description: Worker ram role name.
    Value:
      Fn::GetAtt:
      - KubernetesCluster
      - WorkerRamRoleName
```

To view more examples, visit ManagedEdgeKubernetesCluster.json and ManagedEdgeKubernetesCluster.yml.

19.4. ALIYUN::CS::ManagedKubernetesCluster

```
{
  "Type": "ALIYUN::CS::ManagedKubernetesCluster",
  "Properties": {
    "CloudMonitorFlags": Boolean,
    "ProxyMode": String,
    "WorkerDataDisk": Boolean,
    "SnatEntry": Boolean,
    "VSwitchIds": List,
    "WorkerSystemDiskCategory": String,
    "VpcId": String,
    "Tags": List,
    "WorkerSystemDiskSize": Number,
    "WorkerInstanceTypes": List,
    "WorkerDataDisks": List,
    "LoginPassword": String,
    "ContainerCidr": String,
    "NumOfNodes": Number,
    "Name": String,
    "Taint": List,
    "KeyPair": String,
    "Addons": List,
    "DisableRollback": Boolean,
    "ServiceCidr": String,
    "KubernetesVersion": String,
    "SecurityGroupId": String,
    "EndpointPublicAccess": Boolean,
    "ClusterSpec": String,
    "TimeoutMins": Number,
    "PodVswitchIds": List,
    "EncryptionProviderKey": String,
    "Runtime": Map,
    "SocEnabled": Boolean,
    "UserData": String,
    "CisEnabled": Boolean,
    "OsType": String,
    "IsEnterpriseSecurityGroup": Boolean,
    "Platform": String,
    "AutoRenewPeriod": Number,
    "LoadBalancerSpec": String,
    "AutoRenew": Boolean,
    "ChargeType": String,
    "FormatDisk": Boolean,
    "Period": Number,
    "NodeCidrMask": String,
    "PeriodUnit": String,
    "KeepInstanceName": Boolean,
    "DeletionProtection": Boolean,
    "ZoneIds": List,
    "ResourceGroupId": String
  }
}
```

CloudMonitorFlags	Boolean				• •
Runtime	Map				• • `{"name": "docker", "version": "19.03.5"}` Comparison of Docker, containerd, and Sandboxed-Container
ProxyMode	String				• • ipvs

SnatEntry	Boolean				• • ○ ○
WorkerSystemDiskCategory	String				• • •
VpcId	String				
Tags	List				
WorkerInstanceTypes	List				Instance family
WorkerDataDisks	List				
LoginPassword	String				
ContainerCidr	String				
ZoneIds	List				
ResourceGroupId	String				
NumOfNodes	Number				
Name	String				
WorkerSystemDiskSize	Number				
Taint	List				
WorkerDataDisk	Boolean				• •
Addons	List				• ○ ○ • ○ ○ • Note ○ ○ • ○ ○ • Create and use an event center
DisableRollback	Boolean				• • Note
ServiceCidr	String				
KubernetesVersion	String				Overview of Kubernetes versions supported by ACK
SecurityGroupId	String				

KeyPair	String				
EndpointPublicAccess	Boolean				• •
ClusterSpec	String				• •
TimeoutMins	Number				
PodVswitchIds	List				Note
EncryptionProviderKey	String				
VSwitchIds	List				
SocEnabled	Boolean				• •
UserData	String				
CisEnabled	Boolean				• •
OsType	String				• Windows •
IsEnterpriseSecurityGroup	Boolean				• •
Platform	String				• • AliyunLinux • QbootAliyunLinux • Qboot • Windows • WindowsCore
AutoRenewPeriod	Number				• •
LoadBalancerSpec	String				• slb.s1.small • slb.s2.small • slb.s2.medium • slb.s3.small • slb.s3.medium • slb.s3.large
AutoRenew	Boolean				• •
ChargeType	String				• •
FormatDisk	Boolean				• •

Period	Number				• •
NodeCidrMask	String				
PeriodUnit	String				• •
KeepInstanceName	Boolean				• •
DeletionProtection	Boolean				• •

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Key	String				
Value	String				

```
"WorkerDataDisks": [
  {
    "Category": String,
    "Size": Number
  }
]
```

Category	String				• • • •
Size	Number				

```
"Addons": [
  {
    "Version": String,
    "Config": String,
    "Name": String,
    "Disabled": Boolean
  }
]
```

Version	String				
Config	String				
Name	String				
Disabled	Boolean				• •

```
"Runtime": {
    "Name": String,
    "Version": String
  }
```

Name	String				• containerd • • Sandboxed-Container.runv
Version	String				• • •

Fn::GetAtt

•
•
•
•
•
•
•
•
•
•

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": "Test Create ManagedKubernetesCluster",
  "Parameters": {
    "WorkerInstanceTypes": {
      "Type": "Json",
      "Default": [
        "ecs.c5.large"
      ]
    },
    "WorkerSystemDiskCategory": {
      "Type": "String",
      "Description": "Category of system disk. Default is cloud_efficiency. support cloud|cloud_efficiency|cloud_ssd|cloud_essd
|ephemeral_ssd.Old instances will not be changed.",
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd",
        "cloud_essd",
        "ephemeral_ssd"
      ],
      "Default": "cloud_essd"
    },
    "LoginPassword": {
      "Type": "String",
      "Default": "Admin123"
    },
    "Name": {
      "Type": "String",
      "Default": "mytest"
    }
  },
  "Resources": {
    "Vpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "VpcName": "mytest",
        "CidrBlock": "192.168.0.0/16"
      }
```

```
    },
    "VSwitch": {
      "Type": "ALIYUN::ECS::VSwitch",
      "Properties": {
        "VSwitchName": "mytest",
        "VpcId": {
          "Ref": "Vpc"
        },
        "ZoneId": {
          "Fn::Select": [
            "0",
            {
              "Fn::GetAZs": {
                "Ref": "ALIYUN::Region"
              }
            }
          ]
        },
        "CidrBlock": "192.168.1.0/24"
      }
    },
    "ManagedKubernetesCluster": {
      "Type": "ALIYUN::CS::ManagedKubernetesCluster",
      "Properties": {
        "VSwitchIds": [
          {
            "Ref": "VSwitch"
          }
        ],
        "VpcId": {
          "Ref": "Vpc"
        },
        "ClusterSpec": "ack.pro.small",
        "WorkerInstanceTypes": {
          "Ref": "WorkerInstanceTypes"
        },
        "WorkerSystemDiskCategory": {
          "Ref": "WorkerSystemDiskCategory"
        },
        "LoginPassword": {
          "Ref": "LoginPassword"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "ClusterId": {
      "Value": {
        "Fn::GetAtt": [
          "ManagedKubernetesCluster",
          "ClusterId"
        ]
      }
    },
    "TaskId": {
      "Value": {
        "Fn::GetAtt": [
          "ManagedKubernetesCluster",
          "TaskId"
        ]
      }
    }
  }
}
```

19.5. ALIYUN::CS::ServerlessKubernetesCluster

ALIYUN::CS::ServerlessKubernetesCluster is used to create an ASK cluster.

Syntax

```
{
  "Type": "ALIYUN::CS::ServerlessKubernetesCluster",
  "Properties": {
    "VpcId": String,
    "Name": String,
    "Tags": List,
    "ZoneId": String,
    "PrivateZone": Boolean,
    "VSwitchId": String,
    "EndpointPublicAccess": Boolean,
    "SecurityGroupId": String,
    "VSwitchIds": List,
    "ServiceCidr": String,
    "Addons": List,
    "KubernetesVersion": String,
    "NatGateway": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	If you do not specify this property, the system creates a VPC whose CIDR block is 192.168.0.0/16. You must specify the VpcId and VSwitchId properties or leave both properties empty.
Name	String	Yes	No	The name of the cluster.	The name must start with a digit or letter. The name can contain letters, digits, and hyphens (-).
Tags	List	No	Yes	The tags of the cluster.	For more information, see Tags properties.
ZoneId	String	No	No	The ID of the zone.	None.
PrivateZone	Boolean	No	No	Specifies whether to activate Alibaba Cloud DNS PrivateZone to support the service discovery feature.	Default value: false. Valid values: • true: activates Alibaba Cloud DNS PrivateZone. • false: does not activate Alibaba Cloud DNS PrivateZone. For more information, see Use the service discovery feature based on Alibaba Cloud DNS PrivateZone in ASK clusters.
VSwitchId	String	No	No	The ID of the vSwitch.	If you do not specify this property, the system creates a vSwitch whose CIDR block is 192.168.0.0/16. You must specify the VpcId and VSwitchId properties or leave both properties empty.
EndpointPublicAccess	Boolean	No	No	Specifies whether to enable access to the API server over the Internet.	Default value: true. Valid values: • true: enables access to the API server over the Internet. • false: enables access to the API server only over the VPC.

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	No	No	The ID of the security group to which the Elastic Compute Service (ECS) instances in the cluster belong.	None.
VSwitchIds	List	No	No	The vSwitch IDs.	You can specify up to 10 vSwitch IDs. If you do not specify this property, the system creates a vSwitch whose CIDR block is 192.168.0.0/16. You must specify the VpcId and VSwitchId properties or leave both properties empty.
ServiceCidr	String	No	No	The CIDR block of the Container Service for Kubernetes (ACK) service.	The CIDR block of the service cannot overlap with the CIDR block of the VPC or container. If you use the VPC that is created by the system, the CIDR block 172.19.0.0/20 is used.

Addons	List	No	No	The components that you want to install in the cluster.	• For network component types, you can use Flannel or Terway when you create the cluster.
					  ○ If you use the Flannel component, specify the value in the `[{"Name":"flannel","Config":""}]` format.
					  ○ If you use the Terway component, specify the value in the `[{"Name": "terway-eniip","Config": ""}]` format.
					• For storage component types, you can use Container Storage Interface (CSI) or FlexVolume.
					  ○ If you use the CSI component, specify the value in the `[{"Name":"csi-plugin","Config": ""},{"Name": "csi-provisioner","Config": ""}]` format.
					  ○ If you use the FlexVolume component, specify the value in the `[{"Name": "flexvolume","Config": ""}]` format.
					• Optional. For Log Service component types, you can use an existing Log Service project or create a project.
					  Note If you do not activate Log Service, you cannot use the cluster auditing feature.
					  ○ If you use an existing project, specify the value in the `[{"Name": "logtail-ds","Config": "{\"IngressDashboardEnabled\":\"true\",\"sls_project_name\":\"your_sls_project_name\"}"}]` format.
					  ○ If you create a project, specify the value in the `[{"Name": "logtail-ds","Config": "{\"IngressDashboardEnabled\":\"true\"}"}]` format.

Property	Type	Required	Editable	Description	Constraint
					• Optional. For Ingress component types, nginx-ingress-controller is installed in ACK dedicated clusters by default. ○ If you install nginx-ingress-controller and enable Internet access, specify the value in the `[{"Name":"nginx-ingress-controller","Config":"{\"IngressSlbNetworkType\":\"internet\"}"}]` format. ○ If you do not install nginx-ingress-controller, specify the value in the `[{"Name": "nginx-ingress-controller","Config": "","Disabled": true}]` format. • Optional. For event center component types, the event center feature is enabled for the cluster by default. You can use Kubernetes event centers to store and query events, and configure alerts. You can use the Logstores that are associated with Kubernetes event centers for free within 90 days. For more information, see Create and use an event center. If you enable the event center feature, specify the value in the `[{"Name":"ack-node-problem-detector","Config":"{\"sls_project_name\":\"your_sls_project_name\"}"}]` format. For more information, see Addons properties.
KubernetesVersion	String	No	No	The Kubernetes version of the cluster.	Valid values: • 1.14.8-aliyun.1 if you use a cluster of Kubernetes n.1 if you use a cluster of Kubernetes 1.16.9
NatGateway	Boolean	No	No	Specifies whether to create a Network Address Translation (NAT) gateway.	Default value: false. Valid values: • true: creates a NAT gateway. • false: does not create a NAT gateway.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 64 characters in length. The key cannot start with `aliyun`, `acs:`, `https://`, or `http://`.

Property	Type	Required	Editable	Description	Constraint
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length. The value cannot start with `aliyun`, `acs:`, `http://`, or `https://`.

Addons syntax

```
"Addons": [
  {
    "Disabled": String,
    "Config": String,
    "Name": String
  }
]
```

Addons properties

Property	Type	Required	Editable	Description	Constraint
Disabled	Boolean	No	No	Specifies whether to disable automatic installation for the component.	Default value: false. Valid values: • true: disables automatic installation for the component. • false: enables automatic installation for the component.
Config	String	No	No	The configuration of the component.	If you leave this property empty, you do not need to configure the component.
Name	String	Yes	No	The name of the component.	None.

Return values

Fn::GetAtt

- ClusterId: the ID of the cluster.
- TaskId: the ID of the task. The task ID is assigned by the system and is used to query the status of a task.
- WorkerRamRoleName: the name of the RAM role for worker nodes.
- DefaultUserKubeConfig: the default configuration of user credentials for the cluster.
- ScalingRuleId: the ID of the scaling rule.
- ScalingGroupId: the ID of the scaling group.
- PrivateUserKubConfig: the private configuration of user credentials for the cluster.
- ScalingConfigurationId: the ID of the scaling configuration.
- Nodes: the nodes in the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "KubernetesVersion": {
      "Type": "String",
      "Description": "The version of the Kubernetes cluster."
    },
    "EndpointPublicAccess": {
      "Type": "Boolean",
      "Description": "Whether to enable the public network API Server:\ntrue: which means that the public network API Server is open.\nfalse: If set to false, the API server on the public network will not be created, only the API server on the private net work will be created.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
```

```
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The zone ID."
    },
    "VSwitchIds": {
      "Type": "CommaDelimitedList",
      "Description": "The IDs of VSwitches. If you leave this property empty, the system automatically creates a VSwitch.\nNote
You must specify both the VpcId and VSwitchIds or leave both of them empty.",
      "MinLength": 1,
      "MaxLength": 10
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Specifies the ID of the security group to which the cluster ECS instance belongs."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "If not set, the system will automatically create a switch, and the network segment of the switch created
by the system is 192.168.0.0/18."
    },
    "Addons": {
      "Type": "Json",
      "Description": "The add-ons to be installed for the cluster."
    },
    "NatGateway": {
      "Type": "Boolean",
      "Description": "Whether to create a NAT gateway. The value can be true or false. If not set, the system defaults to false
.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the cluster. The cluster name can use uppercase and lowercase letters, Chinese characters, nu
mbers, and dashes."
    },
    "VpcId": {
      "Type": "String",
      "Description": "VPC ID. If not set, the system will automatically create a VPC, and the VPC network segment created by th
e system is 192.168.0.0/16. \nVpcId and VSwitchId can only be empty at the same time or set the corresponding values at the sam
e time."
    },
    "ServiceCidr": {
      "Type": "String",
      "Description": "The service network segment cannot conflict with the VPC network segment and the container network segmen
t. When the system is selected to automatically create a VPC, the network segment 172.19.0.0/20 is used by default.",
      "Default": "172.19.0.0/20"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tag the cluster."
    },
    "PrivateZone": {
      "Type": "Boolean",
      "Description": "Whether to enable PrivateZone for service discovery.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    }
  },
  "Resources": {
    "ServerlessKubernetesCluster": {
      "Type": "ALIYUN::CS::ServerlessKubernetesCluster",
      "Properties": {
        "KubernetesVersion": {
```

```
          "Ref": "KubernetesVersion"
        },
        "EndpointPublicAccess": {
          "Ref": "EndpointPublicAccess"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VSwitchIds": {
          "Ref": "VSwitchIds"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Addons": {
          "Ref": "Addons"
        },
        "NatGateway": {
          "Ref": "NatGateway"
        },
        "Name": {
          "Ref": "Name"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "ServiceCidr": {
          "Ref": "ServiceCidr"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "PrivateZone": {
          "Ref": "PrivateZone"
        }
      }
    }
  },
  "Outputs": {
    "TaskId": {
      "Description": "Task ID. Automatically assigned by the system, the user queries the task status.",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "TaskId"
        ]
      }
    },
    "ClusterId": {
      "Description": "Cluster instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "ClusterId"
        ]
      }
    },
    "ScalingGroupId": {
      "Description": "Scaling group id",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "ScalingGroupId"
        ]
      }
    },
    "ScalingRuleId": {
      "Description": "Scaling rule id",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
```

```
          "ScalingRuleId"
        ]
      }
    },
    "DefaultUserKubeConfig": {
      "Description": "Default user kubernetes config which is used for configuring cluster credentials.",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "DefaultUserKubeConfig"
        ]
      }
    },
    "WorkerRamRoleName": {
      "Description": "Worker ram role name.",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "WorkerRamRoleName"
        ]
      }
    },
    "ScalingConfigurationId": {
      "Description": "Scaling configuration id",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "ScalingConfigurationId"
        ]
      }
    },
    "PrivateUserKubConfig": {
      "Description": "Private user kubernetes config which is used for configuring cluster credentials.",
      "Value": {
        "Fn::GetAtt": [
          "ServerlessKubernetesCluster",
          "PrivateUserKubConfig"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Addons:
    Description: The add-ons to be installed for the cluster.
    Type: Json
  EndpointPublicAccess:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Whether to enable the public network API Server:
      true: which means that the public network API Server is open.
      false: If set to false, the API server on the public network will not be created,
      only the API server on the private network will be created.'
    Type: Boolean
  KubernetesVersion:
    Description: The version of the Kubernetes cluster.
    Type: String
  Name:
    Description: The name of the cluster. The cluster name can use uppercase and lowercase
      letters, Chinese characters, numbers, and dashes.
    Type: String
  NatGateway:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
```

```
    Default: false
    Description: Whether to create a NAT gateway. The value can be true or false.
      If not set, the system defaults to false.
    Type: Boolean
  PrivateZone:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Whether to enable PrivateZone for service discovery.
    Type: Boolean
  SecurityGroupId:
    Description: Specifies the ID of the security group to which the cluster ECS instance
      belongs.
    Type: String
  ServiceCidr:
    Default: 172.19.0.0/20
    Description: The service network segment cannot conflict with the VPC network
      segment and the container network segment. When the system is selected to automatically
      create a VPC, the network segment 172.19.0.0/20 is used by default.
    Type: String
  Tags:
    Description: Tag the cluster.
    Type: Json
  VSwitchId:
    Description: If not set, the system will automatically create a switch, and the
      network segment of the switch created by the system is 192.168.0.0/18.
    Type: String
  VSwitchIds:
    Description: 'The IDs of VSwitches. If you leave this property empty, the system
      automatically creates a VSwitch.
      Note You must specify both the VpcId and VSwitchIds or leave both of them empty.'
    MaxLength: 10
    MinLength: 1
    Type: CommaDelimitedList
  VpcId:
    Description: "VPC ID. If not set, the system will automatically create a VPC,\
      \ and the VPC network segment created by the system is 192.168.0.0/16. \nVpcId\
      \ and VSwitchId can only be empty at the same time or set the corresponding\
      \ values at the same time."
    Type: String
  ZoneId:
    Description: The zone ID.
    Type: String
Resources:
  ServerlessKubernetesCluster:
    Properties:
      Addons:
        Ref: Addons
      EndpointPublicAccess:
        Ref: EndpointPublicAccess
      KubernetesVersion:
        Ref: KubernetesVersion
      Name:
        Ref: Name
      NatGateway:
        Ref: NatGateway
      PrivateZone:
        Ref: PrivateZone
      SecurityGroupId:
        Ref: SecurityGroupId
      ServiceCidr:
        Ref: ServiceCidr
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VSwitchIds:
        Ref: VSwitchIds
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
```

```
    Type: ALIYUN::CS::ServerlessKubernetesCluster
Outputs:
  ClusterId:
    Description: Cluster instance ID.
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - ClusterId
  DefaultUserKubeConfig:
    Description: Default user kubernetes config which is used for configuring cluster
      credentials.
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - DefaultUserKubeConfig
  PrivateUserKubConfig:
    Description: Private user kubernetes config which is used for configuring cluster
      credentials.
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - PrivateUserKubConfig
  ScalingConfigurationId:
    Description: Scaling configuration id
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - ScalingConfigurationId
  ScalingGroupId:
    Description: Scaling group id
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - ScalingGroupId
  ScalingRuleId:
    Description: Scaling rule id
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - ScalingRuleId
  TaskId:
    Description: Task ID. Automatically assigned by the system, the user queries the
      task status.
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - TaskId
  WorkerRamRoleName:
    Description: Worker ram role name.
    Value:
      Fn::GetAtt:
      - ServerlessKubernetesCluster
      - WorkerRamRoleName
```

To view more examples, visit ServerlessKubernetesCluster.json and ServerlessKubernetesCluster.yml.

20.Config

20.1. ALIYUN::Config::CompliancePack

ALIYUN::Config::CompliancePack is used to create a compliance package.

Syntax

```
{
  "Type": "ALIYUN::Config::CompliancePack",
  "Properties": {
    "CompliancePackName": String,
    "Description": String,
    "ConfigRules": List,
    "CompliancePackTemplateId": String,
    "RiskLevel": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
CompliancePackName	String	Yes	No	The name of the compliance package.	None
Description	String	Yes	Yes	The description of the compliance package.	None
ConfigRules	List	No	Yes	The configuration rules.	For more information, see ConfigRules properties.
CompliancePackTemplateId	String	No	No	The ID of the compliance package template.	None
RiskLevel	Integer	Yes	Yes	The risk level.	Valid values: • 1: high risk • 2: medium risk • 3: low risk

ConfigRules syntax

```
"ConfigRules": [
  {
    "ConfigRuleId": String,
    "ConfigRuleName": String,
    "ManagedRuleIdentifier": String,
    "ConfigRuleParameters": List
  }
]
```

ConfigRules properties

Property	Type	Required	Editable	Description	Constraint
ConfigRuleId	String	No	No	The ID of the configuration rule.	None
ConfigRuleName	String	No	No	The name of the configuration rule.	None
ManagedRuleIdentifier	String	No	No	The identifier of the configuration rule.	None

Property	Type	Required	Editable	Description	Constraint
ConfigRuleParameters	List	No	No	The parameters of the configuration rule.	For more information, see ConfigRuleParameters properties.

ConfigRuleParameters syntax

```
"ConfigRuleParameters": [
  {
    "ParameterValue": String,
    "Required": Boolean,
    "ParameterName": String
  }
]
```

ConfigRuleParameters properties

Property	Type	Required	Editable	Description	Constraint
ParameterValue	String	No	No	The value of the parameter.	None
Required	Boolean	No	No	Specifies whether the parameter is required.	Valid values: • true • false
ParameterName	String	No	No	The name of the parameter.	None

Response parameters

Fn::GetAtt

- CompliancePackId: the ID of the compliance package.
- Description: the description of the compliance package.
- CompliancePackName: the name of the compliance package.
- AccountId: the ID of the Alibaba Cloud account.
- CompliancePackTemplateId: the ID of the compliance package template.
- RiskLevel: the risk level.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description"
    },
    "CompliancePackName": {
      "Type": "String",
      "Description": "Compliance Package Name"
    },
    "ConfigRules": {
      "Type": "Json",
      "Description": "Config Rule List"
    },
    "CompliancePackTemplateId": {
      "Type": "String",
      "Description": "Compliance Package Template Id"
    },
    "RiskLevel": {
      "Type": "Number",
      "Description": "Ris Level"
    }
  },
  "Resources": {
```

```
    "ConfigCompliancePack": {
      "Type": "ALIYUN::Config::CompliancePack",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "CompliancePackName": {
          "Ref": "CompliancePackName"
        },
        "ConfigRules": {
          "Ref": "ConfigRules"
        },
        "CompliancePackTemplateId": {
          "Ref": "CompliancePackTemplateId"
        },
        "RiskLevel": {
          "Ref": "RiskLevel"
        }
      }
    }
  },
  "Outputs": {
    "CompliancePackId": {
      "Description": "Compliance Package ID",
      "Value": {
        "Fn::GetAtt": [
          "ConfigCompliancePack",
          "CompliancePackId"
        ]
      }
    },
    "Description": {
      "Description": "Description",
      "Value": {
        "Fn::GetAtt": [
          "ConfigCompliancePack",
          "Description"
        ]
      }
    },
    "CompliancePackName": {
      "Description": "Compliance Package Name",
      "Value": {
        "Fn::GetAtt": [
          "ConfigCompliancePack",
          "CompliancePackName"
        ]
      }
    },
    "AccountId": {
      "Description": "Aliyun User Id",
      "Value": {
        "Fn::GetAtt": [
          "ConfigCompliancePack",
          "AccountId"
        ]
      }
    },
    "CompliancePackTemplateId": {
      "Description": "Compliance Package Template Id",
      "Value": {
        "Fn::GetAtt": [
          "ConfigCompliancePack",
          "CompliancePackTemplateId"
        ]
      }
    },
    "RiskLevel": {
      "Description": "Ris Level",
      "Value": {
        "Fn::GetAtt": [
          "ConfigCompliancePack",
          "RiskLevel"
        ]
```

```
        }
      }
    }
  }
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CompliancePackName:
    Description: Compliance Package Name
    Type: String
  CompliancePackTemplateId:
    Description: Compliance Package Template Id
    Type: String
  ConfigRules:
    Description: Config Rule List
    Type: Json
  Description:
    Description: Description
    Type: String
  RiskLevel:
    Description: Ris Level
    Type: Number
Resources:
  ConfigCompliancePack:
    Properties:
      CompliancePackName:
        Ref: CompliancePackName
      CompliancePackTemplateId:
        Ref: CompliancePackTemplateId
      ConfigRules:
        Ref: ConfigRules
      Description:
        Ref: Description
      RiskLevel:
        Ref: RiskLevel
    Type: ALIYUN::Config::CompliancePack
Outputs:
  AccountId:
    Description: Aliyun User Id
    Value:
      Fn::GetAtt:
      - ConfigCompliancePack
      - AccountId
  CompliancePackId:
    Description: Compliance Package ID
    Value:
      Fn::GetAtt:
      - ConfigCompliancePack
      - CompliancePackId
  CompliancePackName:
    Description: Compliance Package Name
    Value:
      Fn::GetAtt:
      - ConfigCompliancePack
      - CompliancePackName
  CompliancePackTemplateId:
    Description: Compliance Package Template Id
    Value:
      Fn::GetAtt:
      - ConfigCompliancePack
      - CompliancePackTemplateId
  Description:
    Description: Description
    Value:
      Fn::GetAtt:
      - ConfigCompliancePack
      - Description
  RiskLevel:
    Description: Ris Level
    Value:
      Fn::GetAtt:
      - ConfigCompliancePack
      - RiskLevel
```

20.2. ALIYUN::Config::DeliveryChannel

ALIYUN::Config::DeliveryChannel is used to create or update a delivery channel.

Syntax

```
{
  "Type": "ALIYUN::Config::DeliveryChannel",
  "Properties": {
    "Description": String,
    "DeliveryChannelName": String,
    "DeliveryChannelTargetArn": String,
    "DeliveryChannelAssumeRoleArn": String,
    "DeliveryChannelType": String,
    "DeliveryChannelCondition": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the delivery channel.	None
DeliveryChannelName	String	No	Yes	The name of the delivery channel.	None
DeliveryChannelTargetArn	String	Yes	Yes	The Alibaba Cloud Resource Name (ARN) of the delivery destination.	Specify the value in one of the following formats: • If your delivery destination is an Object Storage Service (OSS) bucket, specify the value in the `acs:oss:{RegionId}:{Aliuid}:{bucketName}` format. • If your delivery destination is a Message Service (MNS) topic, specify the value in the `acs:mns:{RegionId}:{Aliuid}:/topics/{topicName}` format. • If your delivery destination is a Log Service Logstore, specify the value in the `acs:log:{RegionId}:{Aliuid}:project/{projectName}/logstore/{logstoreName}` format.
DeliveryChannelAssumeRoleArn	String	Yes	Yes	The ARN of the role to be assumed by the delivery channel.	If the delivery channel assumes the service-linked role for Cloud Config, you can specify the ARN in the format of the provided example and replace the account ID with the ID of your Alibaba Cloud account.
DeliveryChannelType	String	Yes	No	The type of the delivery channel.	Valid values: • OSS • MNS • SLS

Property	Type	Required	Editable	Description	Constraint

DeliveryChannelCondition	String	No	Yes	The rule to be attached to the delivery channel.	This parameter is applicable only when the DeliveryChannelType parameter is set to MNS.
					This parameter allows you to specify the lowest risk level for the events to subscribe to and the resource types for which you want to subscribe to events.
					• Specify the lowest risk level for the events to subscribe to in the following format: `{"filterType":"RuleRiskLevel","value":"1","multiple":false}`. The value field indicates the risk level that you want to filter. Valid values:
					  ○ 1: high risk
					  ○ 2: medium risk
					  ○ 3: low risk
					• Specify the resource types for which you want to subscribe to events in the following format: `{"filterType":"ResourceType","values":["ACS::ACK::Cluster","ACS::ActionTrail::Trail","ACS::CBWP::CommonBandwidthPackage"],"multiple":true}`. The values field indicates the resource types for which you want to subscribe to events. Its value is a JSON array. An example of the value is `[{"filterType":"ResourceType","values":["ACS::ActionTrail::Trail","ACS::CBWP::CommonBandwidthPackage","ACS::CDN::Domain","ACS::CEN::CenBandwidthPackage","ACS::CEN::CenInstance","ACS::CEN::Flowlog","ACS::DdosCoo::Instance"],"multiple":true}]`.

Response parameters

Fn::GetAtt

DeliveryChannelId: the ID of the delivery channel.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the delivery method."
    },
    "DeliveryChannelName": {
      "Type": "String",
      "Description": "The name of the delivery method."
    },
    "DeliveryChannelTargetArn": {
      "Type": "String",
      "Description": "The ARN of the delivery destination. This parameter is required when you create a\ndelivery method. The v
alue must be in one of the following formats:\nacs:oss:{RegionId}:{Aliuid}:{bucketName} if your delivery destination is an Obje
ct Storage Service (OSS) bucket.\nacs:mns:{RegionId}:{Aliuid}:/topics/{topicName} if your delivery destination is a Message Ser
vice (MNS) topic.\nacs:log:{RegionId}:{Aliuid}:project/{projectName}/logstore/{logstoreName} if your delivery destination is a
Log Service Logstore."
    },
    "DeliveryChannelAssumeRoleArn": {
      "Type": "String",
      "Description": "The Alibaba Cloud Resource Name (ARN) of the role to be assumed by the delivery method.\nThis parameter i
s required when you create a delivery method.\nNote If the delivery method assumes the service linked role for Cloud Config, yo
```

```
u can specify\nthe ARN in the format of the provided example and replace the account ID with the\nID of your Alibaba Cloud acco
unt."
    },
    "DeliveryChannelType": {
      "Type": "String",
      "Description": "The type of the delivery method. This parameter is required when you create a delivery\nmethod. Valid val
ues:\nOSS\nMNS\nSLS",
      "AllowedValues": [
        "MNS",
        "OSS",
        "SLS"
      ]
    },
    "DeliveryChannelCondition": {
      "Type": "String",
      "Description": "The rule attached to the delivery method. This parameter is applicable only to delivery\nmethods of the M
NS type.\nThis parameter allows you to specify the lowest risk level for the events to subscribe\nto and the resource types for
which you want to subscribe to events.\nTo specify the lowest risk level for the events to subscribe to, use the following\nfor
mat:{\"filterType\":\"RuleRiskLevel\",\"value\":\"1\",\"multiple\":false}.\nThe value field indicates the lowest risk level and
can be set to 1, 2, or 3, which\nindicates the high risk level, the medium risk level, and the low risk level, respectively.\nT
o specify the resource types for which you want to subscribe to events, use the following\nformat:{\"filterType\":\"ResourceTyp
e\",\"values\":[\"ACS::ACK::Cluster\",\"ACS::ActionTrail::Trail\",\"ACS::CBWP::CommonBandwidthPackage\"],\"multiple\":true}.\nT
he values field indicates the resource types. Its value is a JSON array.\nExample: [{\"filterType\":\"ResourceType\",\"values\"
:[\"ACS::ActionTrail::Trail\",\"ACS::CBWP::CommonBandwidthPackage\",\"ACS::CDN::Domain\",\"ACS::CEN::CenBandwidthPackage\",\"AC
S::CEN::CenInstance\",\"ACS::CEN::Flowlog\",\"ACS::DdosCoo::Instance\"],\"multiple\":true}]"
    }
  },
  "Resources": {
    "DeliveryChannel": {
      "Type": "ALIYUN::Config::DeliveryChannel",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "DeliveryChannelName": {
          "Ref": "DeliveryChannelName"
        },
        "DeliveryChannelTargetArn": {
          "Ref": "DeliveryChannelTargetArn"
        },
        "DeliveryChannelAssumeRoleArn": {
          "Ref": "DeliveryChannelAssumeRoleArn"
        },
        "DeliveryChannelType": {
          "Ref": "DeliveryChannelType"
        },
        "DeliveryChannelCondition": {
          "Ref": "DeliveryChannelCondition"
        }
      }
    }
  },
  "Outputs": {
    "DeliveryChannelId": {
      "Description": "The ID of the delivery method. ",
      "Value": {
        "Fn::GetAtt": [
          "DeliveryChannel",
          "DeliveryChannelId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DeliveryChannelAssumeRoleArn:
    Description: 'The Alibaba Cloud Resource Name (ARN) of the role to be assumed
      by the delivery method.
      This parameter is required when you create a delivery method.
```

```
      Note If the delivery method assumes the service linked role for Cloud Config,
      you can specify
      the ARN in the format of the provided example and replace the account ID with
      the
      ID of your Alibaba Cloud account.'
    Type: String
  DeliveryChannelCondition:
    Description: 'The rule attached to the delivery method. This parameter is applicable
      only to delivery
      methods of the MNS type.
      This parameter allows you to specify the lowest risk level for the events to
      subscribe
      to and the resource types for which you want to subscribe to events.
      To specify the lowest risk level for the events to subscribe to, use the following
      format:{"filterType":"RuleRiskLevel","value":"1","multiple":false}.
      The value field indicates the lowest risk level and can be set to 1, 2, or 3,
      which
      indicates the high risk level, the medium risk level, and the low risk level,
      respectively.
      To specify the resource types for which you want to subscribe to events, use
      the following
      format:{"filterType":"ResourceType","values":["ACS::ACK::Cluster","ACS::ActionTrail::Trail","ACS::CBWP::CommonBandwidthPa
ckage"],"multiple":true}.
      The values field indicates the resource types. Its value is a JSON array.
      Example: [{"filterType":"ResourceType","values":["ACS::ActionTrail::Trail","ACS::CBWP::CommonBandwidthPackage","ACS::CDN:
:Domain","ACS::CEN::CenBandwidthPackage","ACS::CEN::CenInstance","ACS::CEN::Flowlog","ACS::DdosCoo::Instance"],"multiple":true}
]'
    Type: String
  DeliveryChannelName:
    Description: The name of the delivery method.
    Type: String
  DeliveryChannelTargetArn:
    Description: 'The ARN of the delivery destination. This parameter is required
      when you create a
      delivery method. The value must be in one of the following formats:
      acs:oss:{RegionId}:{Aliuid}:{bucketName} if your delivery destination is an
      Object Storage Service (OSS) bucket.
      acs:mns:{RegionId}:{Aliuid}:/topics/{topicName} if your delivery destination
      is a Message Service (MNS) topic.
      acs:log:{RegionId}:{Aliuid}:project/{projectName}/logstore/{logstoreName} if
      your delivery destination is a Log Service Logstore.'
    Type: String
  DeliveryChannelType:
    AllowedValues:
    - MNS
    - OSS
    - SLS
    Description: 'The type of the delivery method. This parameter is required when
      you create a delivery
      method. Valid values:
      OSS
      MNS
      SLS'
    Type: String
  Description:
    Description: The description of the delivery method.
    Type: String
Resources:
  DeliveryChannel:
    Properties:
      DeliveryChannelAssumeRoleArn:
        Ref: DeliveryChannelAssumeRoleArn
      DeliveryChannelCondition:
        Ref: DeliveryChannelCondition
      DeliveryChannelName:
        Ref: DeliveryChannelName
      DeliveryChannelTargetArn:
        Ref: DeliveryChannelTargetArn
      DeliveryChannelType:
        Ref: DeliveryChannelType
      Description:
        Ref: Description
    Type: ALIYUN::Config::DeliveryChannel
Outputs:
  DeliveryChannelId:
```

```
  DeliveryChannelId:
    Description: 'The ID of the delivery method. '
    Value:
      Fn::GetAtt:
      - DeliveryChannel
      - DeliveryChannelId
```

20.3. ALIYUN::Config::Rule

ALIYUN::Config::Rule is used to create or modify a rule.

Syntax

```
{
  "Type": "ALIYUN::Config::Rule",
  "Properties": {
    "TagKeyScope": String,
    "TagValueScope": String,
    "Description": String,
    "ExcludeResourceIdsScope": String,
    "SourceOwner": String,
    "SourceIdentifier": String,
    "MaximumExecutionFrequency": String,
    "RegionIdsScope": String,
    "ConfigRuleTriggerTypes": String,
    "ResourceGroupIdsScope": String,
    "RiskLevel": Integer,
    "ResourceTypesScope": List,
    "RuleName": String,
    "InputParameters": Map,
    "TagKeyLogicScope": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TagKeyScope	String	No	Yes	The tag key of the rule.	This property only takes effect when the SourceOwner property is set to ALIYUN. ALIYUN specifies a managed rule of Alibaba Cloud.
TagValueScope	String	No	Yes	The tag value of the rule.	This property only takes effect when the SourceOwner property is set to ALIYUN. ALIYUN specifies a managed rule of Alibaba Cloud.
Description	String	No	Yes	The description of the rule.	None.
ExcludeResourceIdsScope	String	No	Yes	The IDs of the resources that are excluded by the rule.	Separate multiple resource IDs with commas (,). This property only takes effect when the SourceOwner property is set to ALIYUN. ALIYUN specifies a managed rule of Alibaba Cloud.
SourceOwner	String	Yes	No	The method based on which the rule is created.	Valid values: • CUSTOM_FC: The rule is created based on a custom rule function that you create. • ALIYUN: The rule is created based on a managed rule of Alibaba Cloud.

Property	Type	Required	Editable	Description	Constraint
SourceIdentifier	String	Yes	No	The identifier of the rule or the Alibaba Cloud Resource Name (ARN) of the function.	This property specifies the identifier of the rule if you set the SourceOwner property to ALIYUN. ALIYUN specifies a managed rule of Alibaba Cloud. This property specifies the ARN of the function if you set the SourceOwner property to CUSTOM_FC. CUSTOM_FC specifies a custom rule that you create.
MaximumExecutionFrequency	String	No	Yes	The interval at which the rule is triggered.	Valid values: • One_Hour • Three_Hours • Six_Hours • Twelve_Hours • TwentyFour_Hours
RegionIdsScope	String	No	Yes	The region IDs of the rule.	Separate multiple region IDs with commas (,). This property only takes effect when the SourceOwner property is set to ALIYUN. ALIYUN specifies a managed rule of Alibaba Cloud.
ConfigRuleTriggerTypes	String	Yes	Yes	The trigger type of the rule.	Valid values: • ConfigurationItemChangeNotification: The rule is triggered by configuration changes. • ScheduledNotification: The rule is triggered as scheduled.
ResourceGroupIdsScope	String	No	Yes	The resource group IDs of the rule.	Separate multiple resource group IDs with commas (,). This property only takes effect when the SourceOwner property is set to ALIYUN. ALIYUN specifies a managed rule of Alibaba Cloud.
RiskLevel	Integer	Yes	Yes	The risk level of the rule.	Valid values: • 1: high • 2: medium • 3: low
ResourceTypesScope	List	Yes	Yes	The types of the resources that are evaluated based on the rule.	None.
RuleName	String	Yes	No	The name of the rule.	None.
InputParameters	Map	No	Yes	The settings of the input parameters for the rule.	Sample value: `{"cpuCount": "2"}`.
TagKeyLogicScope	String	No	No	The logical type of the tag key of the rule.	None.

Return values

Fn::GetAtt

- TagKeyScope: the tag key of the rule.
- TagValueScope: the tag value of the rule.
- Description: the description of the rule.

- ExcludeResourceIdsScope: the IDs of the resources that are excluded by the rule.
- SourceOwner: the method based on which the rule is created.
- SourceIdentifier: the identifier of the rule or the ARN of the function.
- MaximumExecutionFrequency: the interval at which the rule is executed.
- ConfigRuleId: the ID of the rule.
- EventSource: the source of the event.
- RegionIdsScope: the region IDs of the rule.
- ConfigRuleArn: the ARN of the rule.
- ConfigRuleTriggerTypes: the trigger type of the rule.
- ResourceGroupIdsScope: the resource group IDs of the rule.
- RiskLevel: the risk level of the rule.
- ResourceTypesScope: the types of the resources that are evaluated based on the rule.
- RuleName: the name of the rule.
- InputParameters: the settings of the input parameters for the rule.

Examples

`JSON` format

```
{
  "Parameters": {
    "Description": {
      "Default":"test",
      "Type": "String",
      "Description": "The description of the rule"
    },
    "SourceOwner": {
      "Type": "String",
      "Description": "Specifies whether you or Alibaba Cloud owns and manages the rule. Valid values:  CUSTOM_FC: The rule is a
custom rule and you own the rule. ALIYUN: The rule is a managed rule and Alibaba Cloud owns the rule",
      "Default": "ALIYUN"
    },
    "SourceIdentifier": {
      "Type": "String",
      "Description": "The identifier of the rule.  For a managed rule, the value is the name of the managed rule. For a custom
rule, the value is the ARN of the custom rule",
      "Default": "ecs-instances-in-vpc"
    },
    "ConfigRuleTriggerTypes": {
      "Type": "String",
      "Description": "The trigger type of the rule. Valid values:  ConfigurationItemChangeNotification: The rule is triggered u
pon configuration changes. ScheduledNotification: The rule is triggered as scheduled.",
      "Default": "ConfigurationItemChangeNotification"
    },
    "RiskLevel": {
      "Type": "Number",
      "Description": "The risk level of the resources that are not compliant with the rule. Valid values:  1: critical 2: warni
ng 3: info",
      "Default": 3
    },
    "ResourceTypesScope": {
      "Type": "Json",
      "Description": "The types of the resources to be evaluated against the rule",
      "Default": ["ACS::ECS::Instance"]
    },
    "RuleName": {
      "Type": "String",
      "Description": "The name of the rule.",
      "Default": "MyRule"
    }
  },
  "ROSTemplateFormatVersion": "2015-09-01",
  "Outputs": {
    "TagKeyScope": {
      "Description": "The rule monitors the tag key, only applies to rules created based on managed rules",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "TagKeyScope"
        ]
```

```
      }
    },
    "TagValueScope": {
      "Description": "The rule monitors the tag value, only applies to rules created based on managed rules",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "TagValueScope"
        ]
      }
    },
    "Description": {
      "Description": "The description of the rule",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "Description"
        ]
      }
    },
    "ExcludeResourceIdsScope": {
      "Description": "The rule monitors excluded resource IDs, multiple of which are separated by commas, only applies to rules
created based on managed rules, , custom rule this field is empty",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "ExcludeResourceIdsScope"
        ]
      }
    },
    "SourceOwner": {
      "Description": "Specifies whether you or Alibaba Cloud owns and manages the rule. Valid values:  CUSTOM_FC: The rule is a
custom rule and you own the rule. ALIYUN: The rule is a managed rule and Alibaba Cloud owns the rule",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "SourceOwner"
        ]
      }
    },
    "SourceIdentifier": {
      "Description": "The identifier of the rule.  For a managed rule, the value is the name of the managed rule. For a custom
rule, the value is the ARN of the custom rule",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "SourceIdentifier"
        ]
      }
    },
    "MaximumExecutionFrequency": {
      "Description": "The frequency of the compliance evaluations. Valid values:  One_Hour Three_Hours Six_Hours Twelve_Hours T
wentyFour_Hours",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "MaximumExecutionFrequency"
        ]
      }
    },
    "ConfigRuleId": {
      "Description": "The ID of the rule",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "ConfigRuleId"
        ]
      }
    },
    "EventSource": {
      "Description": "The event source of the rule.",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
```

```
          "EventSource"
        ]
      }
    },
    "RegionIdsScope": {
      "Description": "The rule monitors region IDs, separated by commas, only applies to rules created based on managed rules",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "RegionIdsScope"
        ]
      }
    },
    "ConfigRuleArn": {
      "Description": "config rule arn",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "ConfigRuleArn"
        ]
      }
    },
    "ConfigRuleTriggerTypes": {
      "Description": "The trigger type of the rule. Valid values:  ConfigurationItemChangeNotification: The rule is triggered u
pon configuration changes. ScheduledNotification: The rule is triggered as scheduled.",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "ConfigRuleTriggerTypes"
        ]
      }
    },
    "ResourceGroupIdsScope": {
      "Description": "The rule monitors resource group IDs, separated by commas, only applies to rules created based on managed
rules",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "ResourceGroupIdsScope"
        ]
      }
    },
    "RiskLevel": {
      "Description": "The risk level of the resources that are not compliant with the rule. Valid values:  1: critical 2: warni
ng 3: info",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "RiskLevel"
        ]
      }
    },
    "ResourceTypesScope": {
      "Description": "The types of the resources to be evaluated against the rule",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "ResourceTypesScope"
        ]
      }
    },
    "RuleName": {
      "Description": "The name of the rule.",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule",
          "RuleName"
        ]
      }
    },
    "InputParameters": {
      "Description": "The settings of the input parameters for the rule",
      "Value": {
        "Fn::GetAtt": [
          "ConfigRule"
```

```
          "ConfigRule",
          "InputParameters"
        ]
      }
    }
  },
  "Resources": {
    "ConfigRule": {
      "Type": "ALIYUN::Config::Rule",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "SourceOwner": {
          "Ref": "SourceOwner"
        },
        "SourceIdentifier": {
          "Ref": "SourceIdentifier"
        },
        "ConfigRuleTriggerTypes": {
          "Ref": "ConfigRuleTriggerTypes"
        },
        "RiskLevel": {
          "Ref": "RiskLevel"
        },
        "ResourceTypesScope": {
          "Ref": "ResourceTypesScope"
        },
        "RuleName": {
          "Ref": "RuleName"
        }
      }
    }
  }
}
```

21.DATAHUB

21.1. ALIYUN::DATAHUB::Project

ALIYUN::DATAHUB::Project is used to create a DATAHUB Project.

Alibaba Cloud supports creating data bus projects in the following regions:

- China (Hangzhou)
- China (Shanghai)
- China (Beijing)
- China (Zhangjiakou)
- China (Shenzhen)
- Singapore (Singapore)
- Malaysia (Kuala Lumpur)
- Germany (Frankfurt)
- India (Mumbai)

Syntax

```
{
  "Type": "ALIYUN::DATAHUB::Project",
  "Properties": {
    "Comment": String,
    "ProjectName": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
Comment	String	Yes	Not supported	Description	The value must be 3 to 1,024 bytes in length.
ProjectName	String	Yes	Not supported	Project Name	The name must be 3 to 32 characters in length. It must start with a lowercase letter and can contain letters, digits, and underscores (_).

Return value

Fn::GetAtt

ProjectName: The name of the project.

Sample success responses

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Project": {
      "Type": "ALIYUN::DATAHUB::Project",
      "Properties": {
        "Comment": {
          "Ref": "Comment"
        },
        "ProjectName": {
          "Ref": "ProjectName"
        }
      }
    }
  },
  "Parameters": {
    "Comment": {
      "Type": "String",
      "Description": "The comment of project.",
      "MaxLength": 1024
    },
    "ProjectName": {
      "MinLength": 3,
      "Type": "String",
      "Description": "The name of the project. Length [3, 32]. Beginning with characters, only characters, numbers and _ are al
lowed.",
      "MaxLength": 32
    }
  },
  "Outputs": {
    "ProjectName": {
      "Description": "Project name",
      "Value": {
        "Fn::GetAtt": [
          "Project",
          "ProjectName"
        ]
      }
    }
  }
}
```

21.2. ALIYUN::DATAHUB::Topic

ALIYUN::DATAHUB::Topic is used to create topics.

Alibaba Cloud allows you to create topics in the following regions:

- China (Hangzhou)
- China (Shanghai)
- China (Beijing)
- China (Zhangjiakou-Beijing Winter Olympics)
- China (Shenzhen)
- Singapore
- Malaysia (Kuala Lumpur)
- Germany (Frankfurt)
- India (Mumbai)

Syntax

```
{
  "Type": "ALIYUN::DATAHUB::Topic",
  "Properties": {
    "Comment": String,
    "RecordType": String,
    "ProjectName": String,
    "RecordSchema": String,
    "TopicName": String,
    "ShardCount": Integer,
    "Lifecycle": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Comment	String	Yes	No	The description of the topic.	The description must be 3 to 1,024 characters in length.
RecordType	String	Yes	No	The type of the topic.	Valid values: • TUPLE: structured data • BLOB: unstructured data
ProjectName	String	Yes	No	The name of the project.	None.
RecordSchema	String	No	No	The details of the schema.	You must specify this parameter when you create a topic of the TUPLE type. Do not specify this parameter when you create a topic of the BLOB type.
TopicName	String	Yes	No	The name of the topic.	The name must be 3 to 64 characters in length and can contain letters, digits, and underscores (_). It is case-sensitive and must start with a letter.
ShardCount	Integer	No	No	The initial number of shards.	None.
Lifecycle	Integer	No	No	The lifecycle of data storage.	None.

Response parameters

Fn::GetAtt

- ProjectName: the name of the project.
- TopicName: the name of the topic.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Topic": {
      "Type": "ALIYUN::DATAHUB::Topic",
      "Properties": {
        "Comment": {
          "Ref": "Comment"
        },
```

```
        "RecordType": {
          "Ref": "RecordType"
        },
        "ProjectName": {
          "Ref": "ProjectName"
        },
        "RecordSchema": {
          "Ref": "RecordSchema"
        },
        "Lifecycle": {
          "Ref": "Lifecycle"
        },
        "ShardCount": {
          "Ref": "ShardCount"
        },
        "TopicName": {
          "Ref": "TopicName"
        }
      }
    }
  },
  "Parameters": {
    "Comment": {
      "Type": "String",
      "Description": "The comment of topic."
    },
    "RecordType": {
      "Type": "String",
      "Description": "Record type. TUPLE: structured data, BLOB: unstructured data.",
      "AllowedValues": [
        "TUPLE",
        "BLOB"
      ]
    },
    "ProjectName": {
      "MinLength": 3,
      "Type": "String",
      "Description": "The name of the project. Length [3, 32]. Beginning with characters, only characters, numbers and _ are al
lowed.",
      "MaxLength": 32
    },
    "RecordSchema": {
      "Type": "String",
      "Description": "When creating a TUPLE type topic, you need to specify the schema, but the BLOB type does not pass this pa
rameter."
    },
    "Lifecycle": {
      "Default": 3,
      "Type": "Number",
      "Description": "Data storage life cycle.",
      "MinValue": 1
    },
    "ShardCount": {
      "Default": 1,
      "Type": "Number",
      "Description": "Initial shard number.",
      "MinValue": 1
    },
    "TopicName": {
      "MinLength": 3,
      "Type": "String",
      "Description": "The name of the topic. Length [3, 64]. Beginning with characters, only characters, numbers and _ are allo
wed.",
      "MaxLength": 64
    }
  },
  "Outputs": {
    "ProjectName": {
      "Description": "Project name",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "ProjectName"
        ]
```

```
      }
    },
    "TopicName": {
      "Description": "Topic name",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "TopicName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Topic:
    Type: 'ALIYUN::DATAHUB::Topic'
    Properties:
      Comment:
        Ref: Comment
      RecordType:
        Ref: RecordType
      ProjectName:
        Ref: ProjectName
      RecordSchema:
        Ref: RecordSchema
      Lifecycle:
        Ref: Lifecycle
      ShardCount:
        Ref: ShardCount
      TopicName:
        Ref: TopicName
Parameters:
  Comment:
    Type: String
    Description: The comment of topic.
  RecordType:
    Type: String
    Description: 'Record type. TUPLE: structured data, BLOB: unstructured data.'
    AllowedValues:
      - TUPLE
      - BLOB
  ProjectName:
    MinLength: 3
    Type: String
    Description: >-
      The name of the project. Length [3, 32]. Beginning with characters, only
      characters, numbers and _ are allowed.
    MaxLength: 32
  RecordSchema:
    Type: String
    Description: >-
      When creating a TUPLE type topic, you need to specify the schema, but the
      BLOB type does not pass this parameter.
  Lifecycle:
    Default: 3
    Type: Number
    Description: Data storage life cycle.
    MinValue: 1
  ShardCount:
    Default: 1
    Type: Number
    Description: Initial shard number.
    MinValue: 1
  TopicName:
    MinLength: 3
    Type: String
    Description: >-
      The name of the topic. Length [3, 64]. Beginning with characters, only
      characters, numbers and _ are allowed.
    MaxLength: 64
Outputs:
  ProjectName:
    Description: Project name
    Value:
      'Fn::GetAtt':
        - Topic
        - ProjectName
  TopicName:
    Description: Topic name
    Value:
      'Fn::GetAtt':
        - Topic
        - TopicName
```

22.DBS

22.1. ALIYUN::DBS::RestoreTask

ALIYUN::DBS::RestoreTask is used to create a restore task.

Syntax

```
{
  "Type": "ALIYUN::DBS::RestoreTask",
  "Properties": {
    "StartTask": Boolean,
    "RestoreDir": String,
    "DuplicateConflict": String,
    "RestoreHome": String,
    "DestinationEndpointPassword": String,
    "DestinationEndpointIP": String,
    "DestinationEndpointPort": Integer,
    "DestinationEndpointOracleSID": String,
    "BackupSetId": String,
    "DestinationEndpointInstanceType": String,
    "RestoreTime": Integer,
    "DestinationEndpointRegion": String,
    "DestinationEndpointDatabaseName": String,
    "DestinationEndpointUserName": String,
    "RestoreObjects": String,
    "RestoreTaskName": String,
    "BackupPlanId": String,
    "BackupGatewayId": Integer,
    "DestinationEndpointInstanceID": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
StartTask	Boolean	No	No	Specifies whether to start the restore task.	Valid values: • true: The restore task is started. • false: The restore task is not started.
DuplicateConflict	String	No	No	The method used to handle the restore task if the same object name exists in the destination instance.	Default value: failure. Valid values: • failure: The restore task fails if the same object name exists in the destination instance. • renamenew: The system renames an object if the same object name exists in the destination instance.
RestoreHome	String	No	No	The program directory of the source database.	None
DestinationEndpointPassword	String	No	No	The password that is used to connect to the destination database.	This parameter is required except for Redis databases and SQL Server databases that are connected over backup gateways.

Property	Type	Required	Editable	Description	Constraint
DestinationEndpointIP	String	No	No	The endpoint that is used to connect to the destination database.	This parameter is required when the DestinationEndpointInstanceType parameter is set to Express, Agent, or Other.
DestinationEndpointPort	Integer	No	No	The port that is used to connect to the destination database.	This parameter is required when the DestinationEndpointInstanceType parameter is set to Express, Agent, Other, or ECS.
DestinationEndpointOracleSID	String	No	No	The Oracle System ID (SID) of the destination database.	This parameter is required for Oracle databases.
BackupSetId	String	No	No	The ID of the full backup set that is used in the restore task.	You cannot specify both of this parameter and the RestoreTime parameter.
DestinationEndpointInstanceType	String	Yes	No	The endpoint of the destination database.	Valid values: • RDS: ApsaraDB RDS database • ECS: self-managed database hosted on ECS • Express: database that is connected over Express Connect, VPN Gateway, or Smart Access Gateway • Agent: database that is connected over a backup gateway • DDS: ApsaraDB for MongoDB database • Other: database that is connected by using IP addresses and port numbers in the IP:port number format
RestoreTime	Integer	No	No	The time point to which you want to restore the source database.	The time point must be a timestamp.
DestinationEndpointRegion	String	No	No	The region where the destination database is deployed.	This parameter is required when the DestinationEndpointInstanceType parameter is set to RDS, ECS, DDS, Express, or Agent.
DestinationEndpointDatabaseName	String	No	No	The name of the destination database.	This parameter is required for PostgreSQL and MongoDB databases.

Property	Type	Required	Editable	Description	Constraint
DestinationEndpointUserName	String	No	No	The database account.	This parameter is required except for Redis databases and SQL Server databases that are connected over backup gateways.
RestoreObjects	String	No	No	The objects to restore.	This parameter is required except for SQL Server databases that are located in an agent. The parameter value must be in the following format: `[{ "DBName":"Name of the source database", "NewDBName":"Name of the destination database", "SchemaName":"Schema name of the source database", "NewSchemaName":"Schema name of the destination database"}]` .
RestoreTaskName	String	Yes	No	The name of the restore task.	None
BackupPlanId	String	Yes	No	The ID of the backup schedule.	None
BackupGatewayId	Integer	No	No	The ID of the backup gateway.	This parameter is required when the DestinationEndpointInstanceType parameter is set to Agent.
DestinationEndpointInstanceID	String	No	No	The ID of the destination database instance.	This parameter is required when the DestinationEndpointInstanceType parameter is set to RDS, ECS, DDS, or Express.
RestoreDir	String	No	No	The directory of the destination database.	This parameter is required when the DestinationEndpointInstanceType parameter is set to Agent and the backup object of the backup schedule is a MySQL database.

Response parameters

Fn::GetAtt

RestoreTaskId: the ID of the restore task.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
  "Parameters": {
    "StartTask": {
      "Type": "Boolean",
      "Description": "Just create a recovery task and not perform the recovery task temporarily. Do not start restore task.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": true
    },
    "RestoreDir": {
      "Type": "String",
      "Description": "DestinationEndpointInstanceType this parameter is required when agent is specified and the backup schedul
e is MySQL."
    },
    "DuplicateConflict": {
      "Type": "String",
      "Description": "The handling method for conflicts between objects with the same name. Valid values:\nfailure: The object
with the same name fails (default).\nrenamenew: renames an object with the same name.",
      "AllowedValues": [
        "failure",
        "renamenew"
      ]
    },
    "RestoreHome": {
      "Type": "String",
      "Description": "Database Program Directory."
    },
    "DestinationEndpointPassword": {
      "Type": "String",
      "Description": "The password that is used to log on to the RDS instance.\nNote You must specify this parameter when the d
atabase type is Redis, or the database location\nis agent and the database type is MSSQL."
    },
    "DestinationEndpointIP": {
      "Type": "String",
      "Description": "The endpoint used to connect to the database.\nNoteDestinationEndpointInstanceType is express, agent, or
other. This parameter is required."
    },
    "DestinationEndpointPort": {
      "Type": "Number",
      "Description": "The port that is used to access the database of the primary MySQL server.\nNoteDestinationEndpointInstanc
eType is in the format of express, agent, other, or ECS. This parameter is required."
    },
    "DestinationEndpointOracleSID": {
      "Type": "String",
      "Description": "The SID of the Oracle instance.\nNote This parameter is required if the database type is Oracle."
    },
    "BackupSetId": {
      "Type": "String",
      "Description": "The ID of the full backup set used for restoration, which is mutually exclusive to\nRestoreTime."
    },
    "DestinationEndpointInstanceType": {
      "Type": "String",
      "Description": "The location of the database. Valid values: \n- rds \n- ecs \n- express: a database connected over expres
s connect, VPN Gateway, or smart gateway. \n- agent: The database connected through the backup Gateway \n- dds: apsaradb for Mo
ngoDB \n- kvstore \n- polardb \n- drds \n- dg: the database is directly connected through IP Address: Port."
    },
    "RestoreTime": {
      "Type": "Number",
      "Description": "The time when the fault is restored. Set the value to 1554560477000."
    },
    "DestinationEndpointRegion": {
      "Type": "String",
      "Description": "The region of the database.\nNoteDestinationEndpointInstanceType for RDS, ECS, DDS, Express, or Agent, th
is parameter is required."
    },
    "DestinationEndpointDatabaseName": {
      "Type": "String",
      "Description": "The name of the RDS database.\nNote When the database type is PostgreSQL or MongoDB, this parameter is re
quired."
    },
    "DestinationEndpointUserName": {
```

```
      "Type": "String",
      "Description": "The database account.\nNote You must specify this parameter when the database type is Redis, or the datab
ase location\nis agent and the database type is MSSQL."
    },
    "RestoreObjects": {
      "Type": "String",
      "Description": "Restore an object.\nNote For details, see the following RestoreObjects if the database is located in an a
gent, this parameter is required in other scenarios."
    },
    "RestoreTaskName": {
      "Type": "String",
      "Description": "The name of the restoration task."
    },
    "BackupPlanId": {
      "Type": "String",
      "Description": "The ID of the backup plan."
    },
    "BackupGatewayId": {
      "Type": "Number",
      "Description": "The ID of the backup gateway.\nNoteDestinationEndpointInstanceType if you set this parameter to agent, th
is parameter is required."
    },
    "DestinationEndpointInstanceID": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB RDS instance to query.\nNoteDestinationEndpointInstanceType if the value is RDS, E
CS, DDS, or Express, this parameter is required."
    }
  },
  "Resources": {
    "RestoreTask": {
      "Type": "ALIYUN::DBS::RestoreTask",
      "Properties": {
        "StartTask": {
          "Ref": "StartTask"
        },
        "RestoreDir": {
          "Ref": "RestoreDir"
        },
        "DuplicateConflict": {
          "Ref": "DuplicateConflict"
        },
        "RestoreHome": {
          "Ref": "RestoreHome"
        },
        "DestinationEndpointPassword": {
          "Ref": "DestinationEndpointPassword"
        },
        "DestinationEndpointIP": {
          "Ref": "DestinationEndpointIP"
        },
        "DestinationEndpointPort": {
          "Ref": "DestinationEndpointPort"
        },
        "DestinationEndpointOracleSID": {
          "Ref": "DestinationEndpointOracleSID"
        },
        "BackupSetId": {
          "Ref": "BackupSetId"
        },
        "DestinationEndpointInstanceType": {
          "Ref": "DestinationEndpointInstanceType"
        },
        "RestoreTime": {
          "Ref": "RestoreTime"
        },
        "DestinationEndpointRegion": {
          "Ref": "DestinationEndpointRegion"
        },
        "DestinationEndpointDatabaseName": {
          "Ref": "DestinationEndpointDatabaseName"
        },
        "DestinationEndpointUserName": {
          "Ref": "DestinationEndpointUserName"
        },
        "RestoreObjects": {
```

```
          "RestoreObjects": {
            "Ref": "RestoreObjects"
          },
          "RestoreTaskName": {
            "Ref": "RestoreTaskName"
          },
          "BackupPlanId": {
            "Ref": "BackupPlanId"
          },
          "BackupGatewayId": {
            "Ref": "BackupGatewayId"
          },
          "DestinationEndpointInstanceID": {
            "Ref": "DestinationEndpointInstanceID"
          }
        }
      }
    },
    "Outputs": {
      "RestoreTaskId": {
        "Description": "The ID of the restoration task.",
        "Value": {
          "Fn::GetAtt": [
            "RestoreTask",
            "RestoreTaskId"
          ]
        }
      }
    }
  }
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  StartTask:
    Type: Boolean
    Description: >-
      Just create a recovery task and not perform the recovery task temporarily.
      Do not start restore task.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: true
  RestoreDir:
    Type: String
    Description: >-
      DestinationEndpointInstanceType this parameter is required when agent is
      specified and the backup schedule is MySQL.
  DuplicateConflict:
    Type: String
    Description: >-
      The handling method for conflicts between objects with the same name.
      Valid values:
      failure: The object with the same name fails (default).
      renamenew: renames an object with the same name.
    AllowedValues:
      - failure
      - renamenew
  RestoreHome:
    Type: String
    Description: Database Program Directory.
  DestinationEndpointPassword:
    Type: String
    Description: >-
      The password that is used to log on to the RDS instance.
      Note You must specify this parameter when the database type is Redis, or
      the database location
      is agent and the database type is MSSQL.
  DestinationEndpointIP:
    Type: String
    Description: >-
```

```
    The endpoint used to connect to the database.
    NoteDestinationEndpointInstanceType is express, agent, or other. This
    parameter is required.
DestinationEndpointPort:
  Type: Number
  Description: >-
    The port that is used to access the database of the primary MySQL server.
    NoteDestinationEndpointInstanceType is in the format of express, agent,
    other, or ECS. This parameter is required.
DestinationEndpointOracleSID:
  Type: String
  Description: |-
    The SID of the Oracle instance.
    Note This parameter is required if the database type is Oracle.
BackupSetId:
  Type: String
  Description: >-
    The ID of the full backup set used for restoration, which is mutually
    exclusive to
    RestoreTime.
DestinationEndpointInstanceType:
  Type: String
  Description: >-
    The location of the database. Valid values:
    - rds
    - ecs
    - express: a database connected over express connect, VPN Gateway, or
    smart gateway.
    - agent: The database connected through the backup Gateway
    - dds: apsaradb for MongoDB
    - kvstore
    - polardb
    - drds
    - dg: the database is directly connected through IP Address: Port.
RestoreTime:
  Type: Number
  Description: The time when the fault is restored. Set the value to 1554560477000.
DestinationEndpointRegion:
  Type: String
  Description: >-
    The region of the database.
    NoteDestinationEndpointInstanceType for RDS, ECS, DDS, Express, or Agent,
    this parameter is required.
DestinationEndpointDatabaseName:
  Type: String
  Description: >-
    The name of the RDS database.
    Note When the database type is PostgreSQL or MongoDB, this parameter is
    required.
DestinationEndpointUserName:
  Type: String
  Description: >-
    The database account.
    Note You must specify this parameter when the database type is Redis, or
    the database location
    is agent and the database type is MSSQL.
RestoreObjects:
  Type: String
  Description: >-
    Restore an object.
    Note For details, see the following RestoreObjects if the database is
    located in an agent, this parameter is required in other scenarios.
RestoreTaskName:
  Type: String
  Description: The name of the restoration task.
BackupPlanId:
  Type: String
  Description: The ID of the backup plan.
BackupGatewayId:
  Type: Number
  Description: >-
    The ID of the backup gateway.
    NoteDestinationEndpointInstanceType if you set this parameter to agent,
    this parameter is required.
```

```
  DestinationEndpointInstanceID:
    Type: String
    Description: >-
      The ID of the ApsaraDB RDS instance to query.
      NoteDestinationEndpointInstanceType if the value is RDS, ECS, DDS, or
      Express, this parameter is required.
Resources:
  RestoreTask:
    Type: 'ALIYUN::DBS::RestoreTask'
    Properties:
      StartTask:
        Ref: StartTask
      RestoreDir:
        Ref: RestoreDir
      DuplicateConflict:
        Ref: DuplicateConflict
      RestoreHome:
        Ref: RestoreHome
      DestinationEndpointPassword:
        Ref: DestinationEndpointPassword
      DestinationEndpointIP:
        Ref: DestinationEndpointIP
      DestinationEndpointPort:
        Ref: DestinationEndpointPort
      DestinationEndpointOracleSID:
        Ref: DestinationEndpointOracleSID
      BackupSetId:
        Ref: BackupSetId
      DestinationEndpointInstanceType:
        Ref: DestinationEndpointInstanceType
      RestoreTime:
        Ref: RestoreTime
      DestinationEndpointRegion:
        Ref: DestinationEndpointRegion
      DestinationEndpointDatabaseName:
        Ref: DestinationEndpointDatabaseName
      DestinationEndpointUserName:
        Ref: DestinationEndpointUserName
      RestoreObjects:
        Ref: RestoreObjects
      RestoreTaskName:
        Ref: RestoreTaskName
      BackupPlanId:
        Ref: BackupPlanId
      BackupGatewayId:
        Ref: BackupGatewayId
      DestinationEndpointInstanceID:
        Ref: DestinationEndpointInstanceID
Outputs:
  RestoreTaskId:
    Description: The ID of the restoration task.
    Value:
      'Fn::GetAtt':
        - RestoreTask
        - RestoreTaskId
```

23.DMS

23.1. ALIYUN::DMS::Instance

ALIYUN::DMS::Instance is used to enroll new database instances of the enterprise of the current account.

Syntax

```
{
  "Type": "ALIYUN::DMS::Instance",
  "Properties": {
    "InstanceSource": String,
    "DatabasePassword": String,
    "Port": Integer,
    "Host": String,
    "ExportTimeout": Integer,
    "SafeRule": String,
    "DdlOnline": Integer,
    "EnvType": String,
    "Tid": Integer,
    "UseDsql": Integer,
    "Sid": String,
    "EcsInstanceId": String,
    "VpcId": String,
    "InstanceAlias": String,
    "DbaUid": Integer,
    "EcsRegion": String,
    "NetworkType": String,
    "DatabaseUser": String,
    "InstanceType": String,
    "DataLinkName": String,
    "QueryTimeout": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceSource	String	Yes	No	The source of the database instance.	Valid values: • PUBLIC_OWN: a user-created instance that is assigned a public IP address • RDS: an ApsaraDB for RDS instance • ECS_OWN: a user-created ECS instance • VPC_IDC: a user-created IDC on a VPC-type ECS instance
DatabasePassword	String	Yes	Yes	The access password of the database instance.	None.
Port	Integer	Yes	No	The access port of the database instance.	None.
Host	String	Yes	No	The host address of the database instance.	None.

Property	Type	Required	Editable	Description	Constraint
ExportTimeout	Integer	Yes	Yes	The timeout period for exporting the data from the database instance.	Unit: seconds.
SafeRule	String	Yes	Yes	The security rule of the database instance. Enter the name of the security rule for your enterprise.	None.
DdlOnline	Integer	No	No	Specifies whether to use the online service.	Valid values: • 0:The online service is not used. • 1: The native online DDL service prevails. • 2: Data change without table locking provided by DMS prevails. Note Only MySQL and PolarDB databases are supported.
EnvType	String	Yes	Yes	The type of the environment.	Valid values: • product: a production environment • dev: a development environment • pre: a pre-publishing environment • test: a test environment • sit: a SIT environment • uat: a UAT environment • pet: a stress testing environment • stag: a STAG environment
Tid	Integer	Yes	No	The ID of the tenant.	None.
UseDsql	Integer	No	No	Specifies whether to enable cross-instance query.	Valid values: • 0: Cross-instance query is disabled. • 1: Cross-instance query is enabled.
Sid	String	No	No	The system identifier (SID) of the database.	You must specify this parameter if the InstanceType parameter is set to PostgreSQL or Oracle.

Property	Type	Required	Editable	Description	Constraint
EcsInstanceId	String	No	No	The ID of the ECS instance.	You must specify this parameter if the InstanceSource parameter is set to ECS_OWN.
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	You must specify this parameter when the InstanceSource parameter is set to VPC_IDC.
InstanceAlias	String	Yes	Yes	The alias of the database instance.	None.
DbaUid	Integer	Yes	No	The UID of the Alibaba Cloud account to which the database instance belongs.	None.
EcsRegion	String	No	No	The region where the database instance is located.	You must specify this parameter when the InstanceSource parameter is set to RDS, ECS_OWN, or VPC_IDC.
NetworkType	String	Yes	No	The network type of the instance.	Valid values: • CLASSIC • VPC
DatabaseUser	String	Yes	Yes	The username used to access the database instance.	None.
InstanceType	String	Yes	No	The type of the database instance.	Valid values: • MySQL • SQLServer • PostgreSQL • Oracle • DRDS • OceanBase • Mongo • Redis
DataLinkName	String	No	No	The name of the data link for cross-database query.	None.
QueryTimeout	Integer	Yes	Yes	The timeout period for querying the database instance.	Unit: seconds.

Response parameters

Fn::GetAtt

- InstanceId: the ID of the database instance.
- Port: the port used to connect to the database instance.
- Host: the endpoint of the database instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceSource": {
```

```
      "Type": "String",
      "Description": "The source of the database instance. Valid values:\nPUBLIC_OWN: an on-premises database built on the publ
ic network.\nRDS: an ApsaraDB for RDS (RDS) instance.\nECS_OWN: an on-premises database built on an Elastic Compute Service (EC
S) instance.\nVPC_IDC: an on-premises database built in an Internet data center (IDC) in Virtual Private\nCloud (VPC)."
    },
    "DatabasePassword": {
      "Type": "String",
      "Description": "The logon password of the database instance."
    },
    "Port": {
      "Type": "Number",
      "Description": "The connection port of the database instance."
    },
    "Host": {
      "Type": "String",
      "Description": "The endpoint of the database instance."
    },
    "ExportTimeout": {
      "Type": "Number",
      "Description": "The timeout period for exporting the database instance. Unit: seconds."
    },
    "SafeRule": {
      "Type": "String",
      "Description": "The security rule of the database instance. Enter the name of the security rule for\nyour enterprise.\nNo
te To query a specified security rule, log on to the DMS Enterprise console and choose\nSystem Management > Security Rules. The
security rule appears in the security rule\nlist."
    },
    "DdlOnline": {
      "Type": "Number",
      "Description": "[Important] Specifies whether to enable the online data description language (DDL)\nservice. Currently, t
his service is available only for the MySQL and PolarDB databases.\n0: The service is disabled.\n1: The native online DDL servi
ce prevails.\n2: Data change without table locking provided by DMS prevails."
    },
    "EnvType": {
      "Type": "String",
      "Description": "The type of the environment to which the database instance belongs. Valid values:\nproduct: the productio
n environment.\ndev: the test environment."
    },
    "Tid": {
      "Type": "Number",
      "Description": "The ID of the tenant.\nNote To query the ID, log on to the DMS Enterprise console and choose System Manag
ement\n> Instance Management or System Management > User Management. The ID of the tenant\nappears in the Service Specification
section."
    },
    "UseDsql": {
      "Type": "Number",
      "Description": "Specifies whether to enable cross-database query for the database instance. Valid\nvalues:\n0: disabled\n
1: enabled",
      "AllowedValues": [
        0,
        1
      ]
    },
    "Sid": {
      "Type": "String",
      "Description": "The system ID (SID) of the database instance.\nNote You must specify this parameter if the InstanceType p
arameter is set to PostgreSQL or Oracle."
    },
    "EcsInstanceId": {
      "Type": "String",
      "Description": "The ID of the ECS instance to which the database instance belongs.\nNote You must specify this parameter
if the InstanceSource parameter is set to ECS_OWN."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the VPC to which the database instance belongs.\nNote You must specify this parameter if the In
stanceSource parameter is set to VPC_IDC."
    },
    "DbaUid": {
      "Type": "Number",
      "Description": "The Alibaba Cloud unique ID (UID) of the database administrator (DBA) of the database\ninstance.\nNote To
query the UID, log on to the DMS Enterprise console and choose System Management\n> User Management."
    },
    "EcsRegion": {
      "Type": "String",
```

```
      "Type": "String",
      "Description": "The region where the database instance resides.\nNote You must specify this parameter if the InstanceSour
ce parameter is set to ECS_OWN or VPC_IDC."
    },
    "NetworkType": {
      "Type": "String",
      "Description": "The network type of the database instance. Valid values:\nCLASSIC\nVPC",
      "AllowedValues": [
        "CLASSIC",
        "VPC"
      ]
    },
    "InstanceAlias": {
      "Type": "String",
      "Description": "The alias of the database instance. The alias helps you quickly find the required\ninstance."
    },
    "DatabaseUser": {
      "Type": "String",
      "Description": "The logon username of the database instance."
    },
    "InstanceType": {
      "Type": "String",
      "Description": "The type of the database instance. Valid values: MySQL, SQLServer, PostgreSQL, Oracle, DRDS, OceanBase, M
ongo, Redis",
      "AllowedValues": [
        "MySQL",
        "SQLServer",
        "PostgreSQL",
        "Oracle",
        "DRDS",
        "OceanBase",
        "Mongo",
        "Redis"
      ]
    },
    "DataLinkName": {
      "Type": "String",
      "Description": "The name of the data link for cross-database query."
    },
    "QueryTimeout": {
      "Type": "Number",
      "Description": "The timeout period for querying the database instance. Unit: seconds."
    }
  },
  "Resources": {
    "Instance": {
      "Type": "ALIYUN::DMS::Instance",
      "Properties": {
        "InstanceSource": {
          "Ref": "InstanceSource"
        },
        "DatabasePassword": {
          "Ref": "DatabasePassword"
        },
        "Port": {
          "Ref": "Port"
        },
        "Host": {
          "Ref": "Host"
        },
        "ExportTimeout": {
          "Ref": "ExportTimeout"
        },
        "SafeRule": {
          "Ref": "SafeRule"
        },
        "DdlOnline": {
          "Ref": "DdlOnline"
        },
        "EnvType": {
          "Ref": "EnvType"
        },
        "Tid": {
          "Ref": "Tid"
        },
```

```
        },
        "UseDsql": {
          "Ref": "UseDsql"
        },
        "Sid": {
          "Ref": "Sid"
        },
        "EcsInstanceId": {
          "Ref": "EcsInstanceId"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "DbaUid": {
          "Ref": "DbaUid"
        },
        "EcsRegion": {
          "Ref": "EcsRegion"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "InstanceAlias": {
          "Ref": "InstanceAlias"
        },
        "DatabaseUser": {
          "Ref": "DatabaseUser"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "DataLinkName": {
          "Ref": "DataLinkName"
        },
        "QueryTimeout": {
          "Ref": "QueryTimeout"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The ID of the database instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "InstanceId"
        ]
      }
    },
    "Port": {
      "Description": "The connection port of the database instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "Port"
        ]
      }
    },
    "Host": {
      "Description": "The endpoint of the database instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "Host"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
```

```
Parameters:
  InstanceSource:
    Type: String
    Description: >-
      The source of the database instance. Valid values:
      PUBLIC_OWN: an on-premises database built on the public network
      RDS: an ApsaraDB for RDS (RDS) instance.
      ECS_OWN: an on-premises database built on an Elastic Compute Service (ECS)
      instance.
      VPC_IDC: an on-premises database built in an Internet data center (IDC) in
      Virtual Private
      Cloud (VPC).
  DatabasePassword:
    Type: String
    Description: The logon password of the database instance.
  Port:
    Type: Number
    Description: The connection port of the database instance.
  Host:
    Type: String
    Description: The endpoint of the database instance.
  ExportTimeout:
    Type: Number
    Description: 'The timeout period for exporting the database instance. Unit: seconds.'
  SafeRule:
    Type: String
    Description: >-
      The security rule of the database instance. Enter the name of the security
      rule for
      your enterprise.
      Note To query a specified security rule, log on to the DMS Enterprise
      console and choose
      System Management > Security Rules. The security rule appears in the
      security rule
      list.
  DdlOnline:
    Type: Number
    Description: >-
      [Important] Specifies whether to enable the online data description
      language (DDL)
      service. Currently, this service is available only for the MySQL and
      PolarDB databases.
      0: The service is disabled.
      1: The native online DDL service prevails.
      2: Data change without table locking provided by DMS prevails.
  EnvType:
    Type: String
    Description: >-
      The type of the environment to which the database instance belongs. Valid
      values:
      product: the production environment.
      dev: the test environment.
  Tid:
    Type: Number
    Description: >-
      The ID of the tenant.
      Note To query the ID, log on to the DMS Enterprise console and choose
      System Management
      > Instance Management or System Management > User Management. The ID of
      the tenant
      appears in the Service Specification section.
  UseDsql:
    Type: Number
    Description: >-
      Specifies whether to enable cross-database query for the database
      instance. Valid
      values:
      0: disabled
      1: enabled
    AllowedValues:
      - 0
      - 1
  Sid:
    Type: String
```

```
    Description: >-
      The system ID (SID) of the database instance.
      Note You must specify this parameter if the InstanceType parameter is set
      to PostgreSQL or Oracle.
  EcsInstanceId:
    Type: String
    Description: >-
      The ID of the ECS instance to which the database instance belongs.
      Note You must specify this parameter if the InstanceSource parameter is
      set to ECS_OWN.
  VpcId:
    Type: String
    Description: >-
      The ID of the VPC to which the database instance belongs.
      Note You must specify this parameter if the InstanceSource parameter is
      set to VPC_IDC.
  DbaUid:
    Type: Number
    Description: >-
      The Alibaba Cloud unique ID (UID) of the database administrator (DBA) of
      the database
      instance.
      Note To query the UID, log on to the DMS Enterprise console and choose
      System Management
      > User Management.
  EcsRegion:
    Type: String
    Description: >-
      The region where the database instance resides.
      Note You must specify this parameter if the InstanceSource parameter is
      set to ECS_OWN or VPC_IDC.
  NetworkType:
    Type: String
    Description: |-
      The network type of the database instance. Valid values:
      CLASSIC
      VPC
    AllowedValues:
      - CLASSIC
      - VPC
  InstanceAlias:
    Type: String
    Description: >-
      The alias of the database instance. The alias helps you quickly find the
      required
      instance.
  DatabaseUser:
    Type: String
    Description: The logon username of the database instance.
  InstanceType:
    Type: String
    Description: >-
      The type of the database instance. Valid values: MySQL, SQLServer,
      PostgreSQL, Oracle, DRDS, OceanBase, Mongo, Redis
    AllowedValues:
      - MySQL
      - SQLServer
      - PostgreSQL
      - Oracle
      - DRDS
      - OceanBase
      - Mongo
      - Redis
  DataLinkName:
    Type: String
    Description: The name of the data link for cross-database query.
  QueryTimeout:
    Type: Number
    Description: 'The timeout period for querying the database instance. Unit: seconds.'
Resources:
  Instance:
    Type: 'ALIYUN::DMS::Instance'
    Properties:
      InstanceSource:
        Ref: InstanceSource
```

```
        Ref: InstanceSource
      DatabasePassword:
        Ref: DatabasePassword
      Port:
        Ref: Port
      Host:
        Ref: Host
      ExportTimeout:
        Ref: ExportTimeout
      SafeRule:
        Ref: SafeRule
      DdlOnline:
        Ref: DdlOnline
      EnvType:
        Ref: EnvType
      Tid:
        Ref: Tid
      UseDsql:
        Ref: UseDsql
      Sid:
        Ref: Sid
      EcsInstanceId:
        Ref: EcsInstanceId
      VpcId:
        Ref: VpcId
      DbaUid:
        Ref: DbaUid
      EcsRegion:
        Ref: EcsRegion
      NetworkType:
        Ref: NetworkType
      InstanceAlias:
        Ref: InstanceAlias
      DatabaseUser:
        Ref: DatabaseUser
      InstanceType:
        Ref: InstanceType
      DataLinkName:
        Ref: DataLinkName
      QueryTimeout:
        Ref: QueryTimeout
Outputs:
  InstanceId:
    Description: The ID of the database instance.
    Value:
      'Fn::GetAtt':
        - Instance
        - InstanceId
  Port:
    Description: The connection port of the database instance.
    Value:
      'Fn::GetAtt':
        - Instance
        - Port
  Host:
    Description: The endpoint of the database instance.
    Value:
      'Fn::GetAtt':
        - Instance
        - Host
```

23.2. ALIYUN::DMS::User

ALIYUN::DMS::User is used to add a user to Data Management (DMS).

Syntax

```
{
  "Type": "ALIYUN::DMS::User",
  "Properties": {
    "Status": String,
    "Uid": String,
    "UserName": String,
    "RoleNames": List,
    "Mobile": String,
    "Tid": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Status	String	No	Yes	The status of the user.	Valid values: • NORMAL: The user is enabled. • DISABLE: The user is disabled.
Uid	String	Yes	No	The Alibaba Cloud unique ID (UID) of the user.	None
UserName	String	No	Yes	The name of the user.	None
RoleNames	List	No	Yes	The roles that the user assumes.	Valid values: • USER: common user • DBA: database administrator • ADMIN: DMS administrator • SECURITY_ADMIN: security administrator **Note** Multiple roles can be specified.
Mobile	String	No	Yes	The phone number of the user.	None
Tid	String	No	No	The ID of the tenant.	None

Response parameters

Fn::GetAtt

- Uid: the Alibaba Cloud UID of the user.
- UserName: the name of the user.
- RoleNames: the roles that the user assumes.
- UserId: the ID of the user.
- RoleIds: the IDs of the roles.
- Mobile: the phone number of the user.
- ParentUid: the UID of the Alibaba Cloud account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Status": {
      "Type": "String",
      "Description": "UserStatus"
    },
    "Uid": {
      "Type": "String",
```

```
      "Description": "UserAliYunUid"
    },
    "UserName": {
      "Type": "String",
      "Description": "UserNickName"
    },
    "RoleNames": {
      "Type": "Json",
      "Description": "UserRole"
    },
    "Mobile": {
      "Type": "String",
      "Description": "UserMobile"
    },
    "Tid": {
      "Type": "String",
      "Description": ""
    }
  },
  "Resources": {
    "DMSEnterpriseUser": {
      "Type": "ALIYUN::DMS::User",
      "Properties": {
        "Status": {
          "Ref": "Status"
        },
        "Uid": {
          "Ref": "Uid"
        },
        "UserName": {
          "Ref": "UserName"
        },
        "RoleNames": {
          "Ref": "RoleNames"
        },
        "Mobile": {
          "Ref": "Mobile"
        },
        "Tid": {
          "Ref": "Tid"
        }
      }
    }
  },
  "Outputs": {
    "Uid": {
      "Description": "UserAliYunUid",
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "Uid"
        ]
      }
    },
    "UserName": {
      "Description": "UserNickName",
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "UserName"
        ]
      }
    },
    "RoleNames": {
      "Description": "UserRole",
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "RoleNames"
        ]
      }
    },
    "UserId": {
      "Description": "UserId",
```

```
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "UserId"
        ]
      }
    },
    "RoleIds": {
      "Description": "UserRoleId",
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "RoleIds"
        ]
      }
    },
    "Mobile": {
      "Description": "UserMobile",
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "Mobile"
        ]
      }
    },
    "ParentUid": {
      "Description": "ParentAliYunUid",
      "Value": {
        "Fn::GetAtt": [
          "DMSEnterpriseUser",
          "ParentUid"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Status:
    Type: String
    Description: UserStatus
  Uid:
    Type: String
    Description: UserAliYunUid
  UserName:
    Type: String
    Description: UserNickName
  RoleNames:
    Type: Json
    Description: UserRole
  Mobile:
    Type: String
    Description: UserMobile
  Tid:
    Type: String
    Description: ''
Resources:
  DMSEnterpriseUser:
    Type: 'ALIYUN::DMS::User'
    Properties:
      Status:
        Ref: Status
      Uid:
        Ref: Uid
      UserName:
        Ref: UserName
      RoleNames:
        Ref: RoleNames
      Mobile:
        Ref: Mobile
      Tid:
```

```
        Ref: Tid
Outputs:
  Uid:
    Description: UserAliYunUid
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - Uid
  UserName:
    Description: UserNickName
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - UserName
  RoleNames:
    Description: UserRole
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - RoleNames
  UserId:
    Description: UserId
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - UserId
  RoleIds:
    Description: UserRoleId
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - RoleIds
  Mobile:
    Description: UserMobile
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - Mobile
  ParentUid:
    Description: ParentAliYunUid
    Value:
      'Fn::GetAtt':
        - DMSEnterpriseUser
        - ParentUid
```

24.DNS

24.1. ALIYUN::DNS::Domain

```
{
  "Type": "ALIYUN::DNS::Domain",
  "Properties": {
    "GroupId": String,
    "DomainName": String,
    "Tags": List,
    "ResourceGroupId": String
  }
}
```

GroupId	String				
DomainName	String				
ResourceGroupId	String				
Tags	List				

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Key	String				
Value	String				

Fn::GetAtt

-
-
-
-
-
-

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DomainName": {
      "Type": "String",
      "Description": "Domain name"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "GroupId": {
      "Type": "String",
      "Description": "Domain name grouping, the default is the \"default grouping\" GroupId"
    }
  },
  "Resources": {
    "Domain": {
      "Type": "ALIYUN::DNS::Domain",
      "Properties": {
```

```
        "DomainName": {
          "Ref": "DomainName"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "GroupId": {
          "Ref": "GroupId"
        }
      }
    }
  },
  "Outputs": {
    "GroupName": {
      "Description": "The name of the domain name group",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "GroupName"
        ]
      }
    },
    "DomainId": {
      "Description": "Domain ID",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "DomainId"
        ]
      }
    },
    "DomainName": {
      "Description": "Domain name",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "DomainName"
        ]
      }
    },
    "PunyCode": {
      "Description": "punycode returned only for a Chinese domain name",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "PunyCode"
        ]
      }
    },
    "DnsServers": {
      "Description": "The DNS list for the domain name under resolution",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "DnsServers"
        ]
      }
    },
    "GroupId": {
      "Description": "Domain name group ID",
      "Value": {
        "Fn::GetAtt": [
          "Domain",
          "GroupId"
        ]
      }
    }
  }
}
```

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DomainName:
    Description: Domain name
    Type: String
  GroupId:
    Description: Domain name grouping, the default is the "default grouping" GroupId
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  Domain:
    Properties:
      DomainName:
        Ref: DomainName
      GroupId:
        Ref: GroupId
      Tags:
        Ref: Tags
    Type: ALIYUN::DNS::Domain
Outputs:
  DnsServers:
    Description: The DNS list for the domain name under resolution
    Value:
      Fn::GetAtt:
      - Domain
      - DnsServers
  DomainId:
    Description: Domain ID
    Value:
      Fn::GetAtt:
      - Domain
      - DomainId
  DomainName:
    Description: Domain name
    Value:
      Fn::GetAtt:
      - Domain
      - DomainName
  GroupId:
    Description: Domain name group ID
    Value:
      Fn::GetAtt:
      - Domain
      - GroupId
  GroupName:
    Description: The name of the domain name group
    Value:
      Fn::GetAtt:
      - Domain
      - GroupName
  PunyCode:
    Description: punycode returned only for a Chinese domain name
    Value:
      Fn::GetAtt:
      - Domain
      - PunyCode
```

24.2. ALIYUN::DNS::DomainGroup

ALIYUN::DNS::DomainGroup is used to add a domain name group.

Syntax

```
{
  "Type": "ALIYUN::DNS::DomainGroup",
  "Properties": {
    "GroupName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
GroupName	String	Yes	Yes	The name of the domain name group.	None

Response parameters

Fn::GetAtt

GroupId: the ID of the domain name group.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DomainGroup": {
      "Type": "ALIYUN::DNS::DomainGroup",
      "Properties": {
        "GroupName": {
          "Ref": "GroupName"
        }
      }
    }
  },
  "Parameters": {
    "GroupName": {
      "Type": "String",
      "Description": "Domain name group name"
    }
  },
  "Outputs": {
    "GroupId": {
      "Description": "Domain name group ID",
      "Value": {
        "Fn::GetAtt": [
          "DomainGroup",
          "GroupId"
        ]
      }
    }
  }
}
```

24.3. ALIYUN::DNS::DomainRecord

ALIYUN::DNS::DomainRecord is used to add a domain name system (DNS) record.

Syntax

```
{
  "Type": "ALIYUN::DNS::DomainRecord",
  "Properties": {
    "RR": String,
    "DomainName": String,
    "Value": String,
    "Priority": Integer,
    "TTL": Integer,
    "Line": String,
    "Type": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RR	String	Yes	No	The hostname.	For example, you must set this parameter to an at sign (`@`) if you want to resolve `@.example.com` . You cannot leave this parameter empty.
DomainName	String	Yes	No	The domain name.	None.
Value	String	Yes	No	The value of the DNS record.	None.
Priority	Integer	No	Yes	The priority of the mail exchanger (MX) record.	None.
TTL	Integer	No	Yes	The time to live (TTL) of the DNS record.	Default value: 600. Unit: seconds. For more information, see TTL.
Line	String	No	Yes	The resolution line.	Default value: default.
Type	String	Yes	No	The type of the DNS record.	For more information about DNS record types, see DNS record types.

Response parameters

Fn::GetAtt

RecordId: the ID of the DNS record.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DomainRecord": {
      "Type": "ALIYUN::DNS::DomainRecord",
      "Properties": {
        "RR": {
          "Ref": "RR"
        },
        "DomainName": {
          "Ref": "DomainName"
        },
        "Value": {
          "Ref": "Value"
        },
        "Priority": {
          "Ref": "Priority"
        },
        "TTL": {
          "Ref": "TTL"
        },
        "Line": {
          "Ref": "Line"
        },
        "Type": {
          "Ref": "Type"
        }
      }
    }
  },
  "Parameters": {
    "RR": {
      "Type": "String",
      "Description": "Host record, if you want to resolve @.example.com, the host record should fill in \"@\" instead of empty"
    },
    "DomainName": {
      "Type": "String",
      "Description": "Domain name"
```

```
    },
    "Value": {
      "Type": "String",
      "Description": "Record value"
    },
    "Priority": {
      "Type": "Number",
      "Description": "The priority of the MX record, the value range [1,10], when the record type is MX record, this parameter
must be",
      "MaxValue": 10,
      "MinValue": 1
    },
    "TTL": {
      "Default": 600,
      "Type": "Number",
      "Description": "The resolution time is valid. The default is 600 seconds (10 minutes). See the TTL definition."
    },
    "Line": {
      "Type": "String",
      "Description": "Parse the line, the default is default. See parsing line enumeration"
    },
    "Type": {
      "Type": "String",
      "Description": "Parse record type, see parsing record type format"
    }
  },
  "Outputs": {
    "RecordId": {
      "Description": "Parse the ID of the record",
      "Value": {
        "Fn::GetAtt": [
          "DomainRecord",
          "RecordId"
        ]
      }
    }
  }
}
```

25.DRDS

25.1. ALIYUN::DRDS::DrdsInstance

ALIYUN::DRDS::DrdsInstance is used to create a Distributed Relational Database Service (DRDS) instance of specific specifications.

Syntax

```
{
  "Type": "ALIYUN::DRDS::DrdsInstance",
  "Properties": {
    "VpcId": String,
    "Description": String,
    "InstanceSeries": String,
    "Specification": String,
    "PayType": String,
    "ZoneId": String,
    "PricingCycle": String,
    "Duration": Integer,
    "VswitchId": String,
    "IsAutoRenew": Boolean,
    "Type": String,
    "Tags": List,
    "MySQLVersion": String,
    "Quantity": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	This property is required if you want to create the DRDS instance in a VPC.
Description	String	Yes	No	The description of the instance.	The description must be 2 to 128 characters in length.
InstanceSeries	String	Yes	No	The edition of the instance.	Valid values: • drds.sn1.4c8g • drds.sn1.8c16g • drds.sn1.16c32g • drds.sn1.32c64g
Specification	String	Yes	No	The specifications of the instance. The specifications consist of the edition and specific CPU cores and memory size of the instance. For example, drds.sn1.4c8g.8C16G consists of drds.sn1.4c8g and 8C16G.	For more information about valid values of this property, see Specifications and pricing of DRDS instances.
PayType	String	Yes	No	The billing method.	Valid values: • drdsPost • drdsPre
ZoneId	String	Yes	No	The ID of the zone.	A zone belongs to a region. For example, Hangzhou Zone A belongs to the China (Hangzhou) region.

Property	Type	Required	Editable	Description	Constraint
PricingCycle	String	No	No	The unit of the subscription duration.	Valid values: • year • month This property takes effect when PayType is set to drdsPre.
Duration	Integer	No	No	The subscription duration.	• Valid values when PricingCycle is set to year: 1 to 3 • Valid values when PricingCycle is set to month: 1 to 9 This property takes effect when PayType is set to drdsPre.
VswitchId	String	No	No	The ID of the vSwitch.	This property is required if you want to create the DRDS instance.
IsAutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal.	Valid values: • true • false If PricingCycle is set to month, the subscription is automatically renewed for one month. If PricingCycle is set to year, the subscription is automatically renewed for one year. This property takes effect when PayType is set to drdsPre.
Type	String	Yes	No	The type of the cluster.	Valid values: • 0: shared instance • 1: dedicated instance • PRIVATE: dedicated instance • PUBLIC: shared instance
MySQLVersion	String	No	No	The version of the MySQL protocol.	Default value: 5. Valid values: • 5 • 8 **Note** This property takes effect only if you create a primary instance. By default, the MySQL protocol version of the read-only instance is the same as that of the primary instance.
Quantity	Integer	Yes	No	The number of instances that you want to purchase.	None
Tags	List	No	Yes	The tags of the instance.	You can add up to 20 tags. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- OrderId: the order ID of the instance.
- DrdsInstanceId: the ID of the instance.
- IntranetEndpoint: the internal endpoint of the instance.
- InternetEndpoint: the public endpoint of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of the DRDS instance, 2-128 characters"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "Availability zone, an available zone belongs to a certain zone, such as Hangzhou Availability Zone A (cn-
hangzhou-a) belongs to the region Hangzhou (cn-hangzhou)"
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "The unit of the order period, year: year, month: month. The parameter takes effect when the payment type
is drdsPre.",
      "AllowedValues": [
        "year",
        "month"
      ]
    },
    "InstanceSeries": {
      "Type": "String",
      "Description": "drds.sn1.4c8g Starter Edition; drds.sn1.8c16g Standard Edition; drds.sn1.16c32g Business Edition; drds.sn
1.32c64g Ultimate Edition"
    },
    "Quantity": {
      "Type": "Number",
      "Description": "Purchase quantity",
      "MinValue": 1
    },
    "Specification": {
      "Type": "String",
      "Description": "The example specification, for example, drds.sn1.4c8g.8C16G, consists of the DRDS instance series (drds.s
n1.4c8g) plus a specific example specification (8C16G). For the DRDS instance specification value range, see: Distributed Relat
ional Database Service Specifications and Pricing"
    },
    "Duration": {
      "Type": "Number",
      "Description": "The number of cycles ordered. When PricingCycle=year, the value is 1-3; when PricingCycle=month, the valu
e is 1-9. The parameter takes effect when the payment type is drdsPre.",
      "MinValue": 1,
      "MaxValue": 9
    },
    "PayType": {
      "Type": "String",
      "Description": "For the type of payment, see \"Payment Type Parameter Table\"",
      "AllowedValues": [
```

```
        "drdsPost",
        "drdsPre"
      ]
    },
    "VswitchId": {
      "Type": "String",
      "Description": "Virtual switch ID, must be specified when creating a DRDS for VPC network type"
    },
    "Type": {
      "Type": "String",
      "Description": "Instance type, instance type 0 - shared instance 1 - exclusive instance, in addition, this parameter can
also pass PRIVATE and PUBLIC to represent exclusive instance and shared instance respectively",
      "AllowedValues": [
        "0",
        "1",
        "PRIVATE",
        "PUBLIC"
      ]
    },
    "MySQLVersion": {
      "Type": "String",
      "Description": "The MySQL protocol version supported by DRDS. Valid values: 5 and 8. Default value: 5. This parameter is
valid only when the primary instance is created. The read-only instance is the same as the primary instance by default.",
      "Default": "5"
    },
    "VpcId": {
      "Type": "String",
      "Description": "Virtual private network ID, must be specified when creating a DRDS for VPC network type"
    },
    "IsAutoRenew": {
      "Type": "Boolean",
      "Description": "Whether to renew the fee automatically, if it is purchased on a monthly basis, it will automatically rene
w for one month, and if it is purchased on an annual basis, it will automatically renew for one year. The parameter takes effec
t when the payment type is drdsPre.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "DrdsInstance": {
      "Type": "ALIYUN::DRDS::DrdsInstance",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "InstanceSeries": {
          "Ref": "InstanceSeries"
        },
        "Quantity": {
          "Ref": "Quantity"
        },
        "Specification": {
          "Ref": "Specification"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "PayType": {
          "Ref": "PayType"
```

```
          "Ref": "PayType"
        },
        "VswitchId": {
          "Ref": "VswitchId"
        },
        "Type": {
          "Ref": "Type"
        },
        "MySQLVersion": {
          "Ref": "MySQLVersion"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "IsAutoRenew": {
          "Ref": "IsAutoRenew"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "DrdsInstanceId": {
      "Description": "instance id",
      "Value": {
        "Fn::GetAtt": [
          "DrdsInstance",
          "DrdsInstanceId"
        ]
      }
    },
    "InternetEndpoint": {
      "Description": "Public endpoint",
      "Value": {
        "Fn::GetAtt": [
          "DrdsInstance",
          "InternetEndpoint"
        ]
      }
    },
    "OrderId": {
      "Description": "order number",
      "Value": {
        "Fn::GetAtt": [
          "DrdsInstance",
          "OrderId"
        ]
      }
    },
    "IntranetEndpoint": {
      "Description": "VPC endpoint",
      "Value": {
        "Fn::GetAtt": [
          "DrdsInstance",
          "IntranetEndpoint"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: Description of the DRDS instance, 2-128 characters
    Type: String
  Duration:
    Description: The number of cycles ordered. When PricingCycle=year, the value is
      1-3; when PricingCycle=month, the value is 1-9. The parameter takes effect when
      the payment type is drdsPre.
```

```
    MaxValue: 9
    MinValue: 1
    Type: Number
  InstanceSeries:
    Description: drds.sn1.4c8g Starter Edition; drds.sn1.8c16g Standard Edition; drds.sn1.16c32g
      Business Edition; drds.sn1.32c64g Ultimate Edition
    Type: String
  IsAutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Whether to renew the fee automatically, if it is purchased on a monthly
      basis, it will automatically renew for one month, and if it is purchased on
      an annual basis, it will automatically renew for one year. The parameter takes
      effect when the payment type is drdsPre.
    Type: Boolean
  MySQLVersion:
    Default: '5'
    Description: 'The MySQL protocol version supported by DRDS. Valid values: 5 and
      8. Default value: 5. This parameter is valid only when the primary instance
      is created. The read-only instance is the same as the primary instance by default.'
    Type: String
  PayType:
    AllowedValues:
    - drdsPost
    - drdsPre
    Description: For the type of payment, see "Payment Type Parameter Table"
    Type: String
  PricingCycle:
    AllowedValues:
    - year
    - month
    Description: 'The unit of the order period, year: year, month: month. The parameter
      takes effect when the payment type is drdsPre.'
    Type: String
  Quantity:
    Description: Purchase quantity
    MinValue: 1
    Type: Number
  Specification:
    Description: 'The example specification, for example, drds.sn1.4c8g.8C16G, consists
      of the DRDS instance series (drds.sn1.4c8g) plus a specific example specification
      (8C16G). For the DRDS instance specification value range, see: Distributed Relational
      Database Service Specifications and Pricing'
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  Type:
    AllowedValues:
    - '0'
    - '1'
    - PRIVATE
    - PUBLIC
    Description: Instance type, instance type 0 - shared instance 1 - exclusive instance,
      in addition, this parameter can also pass PRIVATE and PUBLIC to represent exclusive
      instance and shared instance respectively
    Type: String
  VpcId:
    Description: Virtual private network ID, must be specified when creating a DRDS
      for VPC network type
    Type: String
  VswitchId:
    Description: Virtual switch ID, must be specified when creating a DRDS for VPC
      network type
    Type: String
  ZoneId:
    Description: Availability zone, an available zone belongs to a certain zone, such
      as Hangzhou Availability Zone A (cn-hangzhou-a) belongs to the region Hangzhou
      (cn-hangzhou)
```

```
    Type: String
Resources:
  DrdsInstance:
    Properties:
      Description:
        Ref: Description
      Duration:
        Ref: Duration
      InstanceSeries:
        Ref: InstanceSeries
      IsAutoRenew:
        Ref: IsAutoRenew
      MySQLVersion:
        Ref: MySQLVersion
      PayType:
        Ref: PayType
      PricingCycle:
        Ref: PricingCycle
      Quantity:
        Ref: Quantity
      Specification:
        Ref: Specification
      Tags:
        Ref: Tags
      Type:
        Ref: Type
      VpcId:
        Ref: VpcId
      VswitchId:
        Ref: VswitchId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::DRDS::DrdsInstance
Outputs:
  DrdsInstanceId:
    Description: instance id
    Value:
      Fn::GetAtt:
      - DrdsInstance
      - DrdsInstanceId
  InternetEndpoint:
    Description: Public endpoint
    Value:
      Fn::GetAtt:
      - DrdsInstance
      - InternetEndpoint
  IntranetEndpoint:
    Description: VPC endpoint
    Value:
      Fn::GetAtt:
      - DrdsInstance
      - IntranetEndpoint
  OrderId:
    Description: order number
    Value:
      Fn::GetAtt:
      - DrdsInstance
      - OrderId
```

To view more examples, visit Instance.json and Instance.yml.

25.2. ALIYUN::DRDS::DrdsDB

ALIYUN::DRDS::DrdsDB is used to create a Distributed Relational Database Service (DRDS) instance.

Syntax

```
{
  "Type": "ALIYUN::DRDS::DrdsDB",
  "Properties": {
    "DbInstType": String,
    "Type": String,
    "DrdsInstanceId": String,
    "RdsInstance": List,
    "DbInstanceIsCreating": Boolean,
    "InstDbName": List,
    "DbName": String,
    "Encode": String,
    "AccountName": String,
    "Password": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DbInstType	String	No	No	The type of the attached storage device.	Valid values: • RDS • POLARDB
Type	String	No	No	The database partitioning mode.	Valid values: • HORIZONTAL: horizontal partitioning (database sharding and table sharding) • VERTICAL: vertical partitioning. For more information, see Scalability.
DrdsInstanceId	String	Yes	No	The ID of the DRDS instance.	None
RdsInstance	List	No	No	The ID of the ApsaraDB RDS instance.	This parameter takes effect only when Type is set to HORIZONTAL. You can specify up to five ApsaraDB RDS instances.
DbInstanceIsCreating	Boolean	No	No	Specifies whether the required ApsaraDB RDS instance is being created.	Valid values: • true • false
InstDbName	List	No	No	The ID of the ApsaraDB RDS instance and the list of databases when Type is set to VERTICAL.	You can specify up to five ApsaraDB RDS instances. For more information, see InstDbName properties.
DbName	String	No	No	The name of the database.	None
Encode	String	No	No	The encoding method that is used by the database.	None

Property	Type	Required	Editable	Description	Constraint
AccountName	String	No	No	The name of the account that has permissions to access all ApsaraDB RDS databases in vertical partitioning scenarios.	This parameter takes effect only when Type is set to VERTICAL.
Password	String	No	No	The password that is used to log on to the database.	None

InstDbName syntax

```
"InstDbName": [
  {
    "ShardDbName": List,
    "DbInstanceId": String
  }
]
```

InstDbName properties

Property	Type	Required	Editable	Description	Constraint
ShardDbName	List	Yes	No	The list of databases that must be vertically partitioned in the ApsaraDB RDS instance.	You can specify up to five databases.
DbInstanceId	String	Yes	No	The ID of the ApsaraDB RDS instance. This parameter takes effect only when Type is set to VERTICAL.	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DbInstType": {
      "Type": "String",
      "Description": "The type of the attached storage. Valid values:\nRDS or POLARDB",
      "AllowedValues": [
        "RDS",
        "POLARDB"
      ]
    },
    "Type": {
      "Type": "String",
      "Description": "Database Sharding method. For more information, see scalability principle. Valid values:\nHORIZONTAL: ind
icates HORIZONTAL partitioning, which is commonly known as database\nand table sharding.\nVERTICAL: indicates VERTICAL partitio
ning.",
      "AllowedValues": [
        "HORIZONTAL",
        "VERTICAL"
      ],
      "Default": "HORIZONTAL"
    },
    "DrdsInstanceId": {
```

```
      "Type": "String",
      "Description": "DRDS instance ID"
    },
    "RdsInstance": {
      "Type": "Json",
      "Description": "This property is required only for vertical partitioning.",
      "MinLength": 1,
      "MaxLength": 5
    },
    "DbInstanceIsCreating": {
      "Type": "Boolean",
      "Description": "Check whether the RDS instance is being created.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "InstDbName": {
      "Type": "Json",
      "Description": "",
      "MinLength": 1,
      "MaxLength": 5
    },
    "DbName": {
      "Type": "String",
      "Description": "Database Name"
    },
    "Encode": {
      "Type": "String",
      "Description": "Encoding used by the database"
    },
    "AccountName": {
      "Type": "String",
      "Description": "In the vertical split scenario, an account name with access rights to the corresponding database on all R
DSs."
    },
    "Password": {
      "Type": "String",
      "Description": "The logon password of the database instance."
    }
  },
  "Resources": {
    "DrdsDB": {
      "Type": "ALIYUN::DRDS::DrdsDB",
      "Properties": {
        "DbInstType": {
          "Ref": "DbInstType"
        },
        "Type": {
          "Ref": "Type"
        },
        "DrdsInstanceId": {
          "Ref": "DrdsInstanceId"
        },
        "RdsInstance": {
          "Ref": "RdsInstance"
        },
        "DbInstanceIsCreating": {
          "Ref": "DbInstanceIsCreating"
        },
        "InstDbName": {
          "Ref": "InstDbName"
        },
        "DbName": {
          "Ref": "DbName"
        },
        "Encode": {
          "Ref": "Encode"
        },
        "AccountName": {
          "Ref": "AccountName"
        },
```

```
        "Password": {
          "Ref": "Password"
        }
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DbInstType:
    Type: String
    Description: |-
      The type of the attached storage. Valid values:
      RDS or POLARDB
    AllowedValues:
      - RDS
      - POLARDB
  Type:
    Type: String
    Description: >-
      Database Sharding method. For more information, see scalability principle.
      Valid values:
      HORIZONTAL: indicates HORIZONTAL partitioning, which is commonly known as
      database
      and table sharding.
      VERTICAL: indicates VERTICAL partitioning.
    AllowedValues:
      - HORIZONTAL
      - VERTICAL
    Default: HORIZONTAL
  DrdsInstanceId:
    Type: String
    Description: DRDS instance ID
  RdsInstance:
    Type: Json
    Description: This property is required only for vertical partitioning.
    MinLength: 1
    MaxLength: 5
  DbInstanceIsCreating:
    Type: Boolean
    Description: Check whether the RDS instance is being created.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  InstDbName:
    Type: Json
    Description: ''
    MinLength: 1
    MaxLength: 5
  DbName:
    Type: String
    Description: Database Name
  Encode:
    Type: String
    Description: Encoding used by the database
  AccountName:
    Type: String
    Description: >-
      In the vertical split scenario, an account name with access rights to the
      corresponding database on all RDSs.
  Password:
    Type: String
    Description: The logon password of the database instance.
Resources:
  DrdsDB:
    Type: 'ALIYUN::DRDS::DrdsDB'
    Properties:
      DbInstType:
        Ref: DbInstType
```

```
      Type:
        Ref: Type
      DrdsInstanceId:
        Ref: DrdsInstanceId
      RdsInstance:
        Ref: RdsInstance
      DbInstanceIsCreating:
        Ref: DbInstanceIsCreating
      InstDbName:
        Ref: InstDbName
      DbName:
        Ref: DbName
      Encode:
        Ref: Encode
      AccountName:
        Ref: AccountName
      Password:
        Ref: Password
```

26.ECI

26.1. ALIYUN::ECI::ImageCache

ALIYUN::ECI::ImageCache is used to create an image cache.

Syntax

```
{
  "Type": "ALIYUN::ECI::ImageCache",
  "Properties": {
    "EipInstanceId": String,
    "Image": List,
    "SecurityGroupId": String,
    "ResourceGroupId": String,
    "VSwitchId": String,
    "ImageRegistryCredential": List,
    "ImageCacheName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
EipInstanceId	String	No	No	The ID of an EIP instance.	Make sure that your ECI can access the Internet before pulling public images. We recommend that you configure a NAT gateway for your vSwitch. You can also configure a public IP address.
Image	List	Yes	No	The IDs of images to be cached.	A maximum of 20 images can be cached.
SecurityGroupId	String	Yes	No	The ID of the security group.	None
ResourceGroupId	String	No	No	The ID of the resource group.	None
VSwitchId	String	Yes	No	The ID of the vSwitch.	None
ImageRegistryCredential	List	No	No	The credentials used to log on to image repositories.	This parameter is optional for images stored in Alibaba Cloud Container Registry (ACR). A maximum of 10 credentials can be configured.
ImageCacheName	String	Yes	No	The name of the image cache.	None

ImageRegistryCredential syntax

```
"ImageRegistryCredential": [
  {
    "Server": String,
    "UserName": String,
    "Password": String
  }
]
```

ImageRegistryCredential properties

Name	Type	Required	Editable	Description	Validity
Server	String	No	No	The URL of the image repository. This URL does not include a protocol prefix, such as http:// or https://.	None
UserName	String	No	No	The username that is used to log on to the image repository.	None
Password	String	No	No	The password that is used to log on to the image repository.	None

Response parameters

Fn::GetAtt

- ImageCacheId: the ID of the image cache.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ImageCache": {
      "Type": "ALIYUN::ECI::ImageCache",
      "Properties": {
        "EipInstanceId": {
          "Ref": "EipInstanceId"
        },
        "Image": {
          "Ref": "Image"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "ImageRegistryCredential": {
          "Ref": "ImageRegistryCredential"
        },
        "ImageCacheName": {
          "Ref": "ImageCacheName"
        }
      }
    }
  },
  "Parameters": {
    "EipInstanceId": {
      "Type": "String",
      "Description": "If you want to pull the public network image, you need to configure the public network ip or configure th
e switch NAT gateway."
    },
    "Image": {
      "Type": "Json",
      "Description": "The image list to be cached.",
      "MaxLength": 20
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Security group ID."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group."
```

```
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "vSwitch ID."
    },
    "ImageRegistryCredential": {
      "Type": "Json",
      "Description": "Private image password. Alibaba Cloud ACR image can be left blank.",
      "MaxLength": 10
    },
    "ImageCacheName": {
      "Type": "String",
      "Description": "Image cache name."
    }
  },
  "Outputs": {
    "ImageCacheId": {
      "Description": "The ID of the image cache.",
      "Value": {
        "Fn::GetAtt": [
          "ImageCache",
          "ImageCacheId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  ImageCache:
    Type: ALIYUN::ECI::ImageCache
    Properties:
      EipInstanceId:
        Ref: EipInstanceId
      Image:
        Ref: Image
      SecurityGroupId:
        Ref: SecurityGroupId
      ResourceGroupId:
        Ref: ResourceGroupId
      VSwitchId:
        Ref: VSwitchId
      ImageRegistryCredential:
        Ref: ImageRegistryCredential
      ImageCacheName:
        Ref: ImageCacheName
Parameters:
  EipInstanceId:
    Type: String
    Description: If you want to pull the public network image, you need to configure
      the public network ip or configure the switch NAT gateway.
  Image:
    Type: Json
    Description: The image list to be cached.
    MaxLength: 20
  SecurityGroupId:
    Type: String
    Description: Security group ID.
  ResourceGroupId:
    Type: String
    Description: Resource group.
  VSwitchId:
    Type: String
    Description: vSwitch ID.
  ImageRegistryCredential:
    Type: Json
    Description: Private image password. Alibaba Cloud ACR image can be left blank.
    MaxLength: 10
  ImageCacheName:
    Type: String
    Description: Image cache name.
Outputs:
  ImageCacheId:
    Description: The ID of the image cache.
    Value:
      Fn::GetAtt:
      - ImageCache
      - ImageCacheId
```

27.ECS

27.1. ALIYUN::ECS::AutoProvisioningGroup

ALIYUN::ECS::AutoProvisioningGroup is used to create an auto provisioning group.

Syntax

```
{
  "Type": "ALIYUN::ECS::AutoProvisioningGroup",
  "Properties": {
    "SpotInstancePoolsToUseCount": Integer,
    "AutoProvisioningGroupName": String,
    "ValidUntil": String,
    "Description": String,
    "PayAsYouGoAllocationStrategy": String,
    "MaxSpotPrice": Number,
    "LaunchTemplateId": String,
    "DefaultTargetCapacityType": String,
    "SpotInstanceInterruptionBehavior": String,
    "SpotTargetCapacity": String,
    "SpotAllocationStrategy": String,
    "PayAsYouGoTargetCapacity": String,
    "TotalTargetCapacity": String,
    "AutoProvisioningGroupType": String,
    "LaunchTemplateVersion": String,
    "ValidFrom": String,
    "ExcessCapacityTerminationPolicy": String,
    "TerminateInstances": Boolean,
    "TerminateInstancesWithExpiration": Boolean,
    "CheckExecutionStatus": Boolean,
    "LaunchConfiguration": Map
    "LaunchTemplateConfig": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SpotInstancePoolsToUseCount	Integer	No	No	The number of instances that the auto provisioning group creates by selecting the instance type of the lowest price.	The value of this property must be smaller than the relevant number that you specify in the configurations of the launch template. This property only takes effect when the SpotAllocationStrategy property is set to lowest-price.
AutoProvisioningGroupName	String	No	No	The name of the auto provisioning group.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
ValidUntil	String	No	No	The point in time at which the auto provisioning group expires. The auto provisioning group is valid during the period of time between the point in time that is specified by the ValidFrom property and this point in time.	Specify the time in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC.

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the auto provisioning group.	None.
PayAsYouGoAllocationStrategy	String	No	No	The policy based on which the auto provisioning group creates pay-as-you-go instances.	Default value: lowest-price. Valid values: • lowest-price: the cost optimization policy. The auto provisioning group selects the instance type of the lowest price to create pay-as-you-go instances. • prioritized: the priority-based policy. The auto provisioning group creates pay-as-you-go instances based on the priority that is specified by the LaunchTemplateConfig property.
MaxSpotPrice	Number	No	Yes	The highest price of preemptible instances in the auto provisioning group.	If you specify the MaxPrice property in LaunchTemplateConfig and the MaxSpotPrice property, the smaller value between the values of both properties is used as the highest price.
LaunchTemplateId	String	No	No	The ID of the launch template that you associate with the auto provisioning group.	You can call the DescribeLaunchTemplates operation to query available launch templates. When you specify the LaunchTemplateId and LaunchConfiguration properties, the value of the LaunchTemplateId property takes precedence.
DefaultTargetCapacityType	String	No	Yes	The type of supplemental instances. When the sum of the values of PayAsYouGoTargetCapacity and SpotTargetCapacity properties is smaller than the value of the TotalTargetCapacity property, the auto provisioning group creates instances of the specified billing method to meet the capacity requirements.	Default value: Spot. Valid values: • PayAsYouGo: pay-as-you-go instances • Spot: preemptible instances
SpotInstanceInterruptionBehavior	String	No	No	The next operation that the system performs after the excess preemptible instances are stopped.	Default value: stop. Valid values: • stop: retains the excess preemptible instances in the stopped state. • terminate: releases the excess preemptible instances.
SpotTargetCapacity	String	No	Yes	The target capacity of preemptible instances in the auto provisioning group.	This value must be smaller than the value of the TotalTargetCapacity property.

Property	Type	Required	Editable	Description	Constraint
SpotAllocationStrategy	String	No	No	The policy based on which the auto provisioning group creates preemptible instances.	Default value: lowest-price. Valid values: • lowest-price: the cost optimization policy. The auto provisioning group selects the instance type of the lowest price to create preemptible instances. • diversified: the balanced distribution policy. The auto provisioning group creates the instances in the zones that are specified in the launch template and evenly distributes the instances across the zones.
PayAsYouGoTargetCapacity	String	No	Yes	The target capacity of pay-as-you-go instances in the auto provisioning group.	This value must be smaller than the value of the TotalTargetCapacity property.
TotalTargetCapacity	String	Yes	Yes	The total target capacity of the auto provisioning group.	The value must be a positive integer. The total target capacity of the auto provisioning group must be at least the sum of the values of the PayAsYouGoTargetCapacity and SpotTargetCapacity properties.
AutoProvisioningGroupType	String	No	No	The delivery type of the auto provisioning group.	Default value: maintain. Valid values: • request: the one-time delivery. When the auto provisioning group is started, the system delivers clusters only once. If the clusters fail to be distributed, the system does not retry the delivery. • maintain: the continuous delivery. When the auto provisioning group is started, the system delivers clusters until the target capacity is reached. The system also monitors the capacity in real time. If the target capacity of the auto provisioning group is not reached, the system continues creating ECS instances until the target capacity is reached.
LaunchTemplateVersion	String	No	No	The version of the launch template that is associated with the auto provisioning group.	You can call the DescribeLaunchTemplateVersions operation to query available versions of the launch template.
ValidFrom	String	No	No	The point in time at which the auto provisioning group is started. The auto provisioning group is valid during the period of time between this point in time and the point in time that is specified by the ValidUntil property.	Specify the time in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC.

Property	Type	Required	Editable	Description	Constraint
ExcessCapacityTerminationPolicy	String	No	Yes	Specifies whether to stop excess preemptible instances when the total target capacity of the auto provisioning group is reached.	Default value: no-termination. Valid values: • no-termination: does not stop excess preemptible instances. • termination: stops excess preemptible instances. The SpotInstanceInterruptionBehavior property specifies the operation that the system performs on the stopped instances.
TerminateInstances	Boolean	No	No	Specifies whether to release the instances in the auto provisioning group when the auto provisioning group is deleted.	Default value: false. Valid values: • true: releases the instances. • false: does not release the instances.
TerminateInstancesWithExpiration	Boolean	No	Yes	Specifies whether to stop preemptible instances when the auto provisioning group expires.	Default value: false. Valid values: • true: stops preemptible instances. The SpotInstanceInterruptionBehavior property specifies the operation that the system performs on the stopped instances. • false: continues running preemptible instances.
CheckExecutionStatus	Boolean	No	No	Specifies whether to check the execution status.	Valid values: • true: checks the execution status. • false: does not check the execution status.
LaunchConfiguration	Map	No	No	The launch configuration.	When you specify the LaunchTemplateId and LaunchConfiguration properties, the value of the LaunchTemplateId property takes precedence. For more information, see LaunchConfiguration properties.
LaunchTemplateConfig	List	No	No	The configurations of the launch template.	You can specify up to 20 configurations. For more information, see LaunchTemplateConfig properties.

LaunchTemplateConfig syntax

```
"LaunchTemplateConfig": [
  {
    "Priority": Integer,
    "WeightedCapacity": Integer,
    "VSwitchId": String,
    "InstanceType": String,
    "MaxPrice": Integer
  }
]
```

LaunchTemplateConfig properties

Property	Type	Required	Editable	Description	Constraint
Priority	Integer	No	No	The priority of the instance type that is specified in the launch template.	The value must be an integer that is greater than or equal to 0. The value 0 indicates the highest priority.

Property	Type	Required	Editable	Description	Constraint
WeightedCapacity	Integer	No	No	The weight of the instance type that is specified in the launch template.	The value must be an integer that is greater than 0. A larger value of this property indicates that a single instance has more computing power and fewer instances are required. You can calculate the weight based on the computing power of the specified instance type and the minimum computing power of a single node in the cluster. For example, if the minimum computing power of a single node is 8 vCPUs and 60 GiB, you can set the weight of the instance type that has 8 vCPUs and 60 GiB to 1 and the weight of the instance type that has 16 vCPUs and 120 GiB to 2.
VSwitchId	String	Yes	No	The ID of the vSwitch that is specified in the launch template. The ECS instances in the launch template are connetced to the vSwitch.	The zone of the ECS instances that are created from the launch template is determined by the vSwitch.
InstanceType	String	No	No	The instance type that is specified in the launch template.	None.
MaxPrice	Integer	No	No	The highest price of preemptible instances that is specified in the launch template.	None.

LaunchConfiguration syntax

```
"LaunchConfiguration": {
  "InstanceDescription": String,
  "SystemDiskName": String,
  "RamRoleName": String,
  "SystemDiskCategory": String,
  "SecurityGroupId": String,
  "CreditSpecification": String,
  "HostName": String,
  "SystemDiskDescription": String,
  "SystemDiskPerformanceLevel": String,
  "DataDisk": List,
  "InternetMaxBandwidthOut": Integer,
  "IoOptimized": String,
  "Tag": List,
  "ImageId": String,
  "ResourceGroupId": String,
  "KeyPairName": String,
  "PasswordInherit": Boolean,
  "UserData": String,
  "InstanceName": String,
  "SystemDiskSize": Integer,
  "InternetChargeType": String,
  "SecurityEnhancementStrategy": String
}
```

LaunchConfiguration properties

Property	Type	Required	Editable	Description	Constraint
InstanceDescription	String	No	No	The description of the instance.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
SystemDiskName	String	No	No	The name of the system disk.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), colons (:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
RamRoleName	String	No	No	The name of the RAM role for the instance.	None.
SystemDiskCategory	String	No	No	The category of the system disk.	Valid values: • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: enhanced SSD (ESSD) • cloud: basic disk For non-I/O optimized instances of a retired instance type, the default value is cloud. For other types of instances, the default value is cloud_efficiency.
SecurityGroupId	String	Yes	No	The ID of the security group to which the instance belongs.	None.
CreditSpecification	String	No	No	The performance mode of burstable instances.	Valid values: • Standard: standard mode • Unlimited: unlimited mode
HostName	String	No	No	The hostname of the instance.	The hostname cannot start or end with a period (.) or hyphen (-). The hostname cannot contain consecutive periods (.) or hyphens (-). The hostname must meet the following requirements: • For Windows instances, the hostname must be 2 to 15 characters in length, and can contain letters, digits, and hyphens (-). The hostname cannot contain periods (.) or only digits. • For instances that run a different OS, such as Linux, the hostname must be 2 to 64 characters in length. You can use periods (.) to separate the hostname into multiple segments. Each segment can contain letters, digits, and hyphens (-).
SystemDiskDescription	String	No	No	The description of the system disk.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
SystemDiskPerformanceLevel	String	No	No	The performance level (PL) of the ESSD that is used as a system disk.	Default value: PL0. Valid values: • PL0: A single ESSD can deliver up to 10,000 random read/write IOPS. • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS.

Property	Type	Required	Editable	Description	Constraint
DataDisk	List	No	No	The configurations of the data disk.	You can specify up to 16 data disks. For more information, see DataDisk properties.
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound public bandwidth.	Valid values: 0 to 100. Default value: 0. Unit: Mbit/s.
IoOptimized	String	No	No	Specifies whether the instance is an I/O optimized instance.	Valid values: • none: a non-I/O optimized instance • optimized: an I/O optimized instance
Tag	List	No	No	The tags of the instance.	You can specify up to 20 tags. For more information, see Tag properties.
ImageId	String	Yes	No	The ID of the image.	None.
ResourceGroupId	String	No	No	The ID of the enterprise resource group to which the instance belongs.	None.
KeyPairName	String	No	No	The name of the key pair.	For Windows instances, you can leave this property empty. By default, this property is empty. By default, password-based logon is disabled for Linux instances.
PasswordInherit	Boolean	No	No	Specifies whether to use the preset password of an image.	Valid values: • true: uses the preset password. • false: does not use the preset password.
UserData	String	No	No	The user data of the instance.	User data must be encoded in Base64. The maximum size of raw data is 16 KB.
InstanceName	String	No	No	The name of the instance.	The default value of this property is the value of the InstanceId property. The name must be 2 to 128 characters in length, and can contain letters, digits, colons (:), underscores (_), periods (.), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
SystemDiskSize	Integer	No	No	The size of the system disk.	Valid values: 20 to 500. The size of the system disk must be greater than or equal to the size of the image. Default value: 40 or the image size. Unit: GiB.

Property	Type	Required	Editable	Description	Constraint
InternetChargeType	String	No	No	The metering method of the network.	Valid values: • PayByBandwidth: pay-by-bandwidth • PayByTraffic: pay-by-data-transfer **Note** When the pay-by-data-transfer metering method is used, the maximum inbound and outbound bandwidths are used as the maximum bandwidths instead of guaranteed bandwidths. When demands outstrip resource supplies, the maximum bandwidths may be affected. If you require guaranteed bandwidths for your instance, use the pay-by-bandwidth metering method.
SecurityEnhancementStrategy	String	No	No	Specifies whether to enable security hardening.	Valid values: • Active: enables security hardening. This value takes effect only for public images. • Deactive: disables security hardening. This value takes effect for all types of images.

DataDisk syntax

```
"DataDisk": [
  {
    "DiskName": String,
    "Size": Integer,
    "Category": String,
    "Description": String,
    "DeleteWithInstance": Boolean,
    "SnapshotId": String,
    "Encrypted": Boolean,
    "KmsKeyId": String,
    "InternetChargeType": String,
    "PerformanceLevel": String
  }
]
```

DataDisk properties

Property	Type	Required	Editable	Description	Constraint
DiskName	String	No	No	The name of the data disk.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), colons (:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
Size	Integer	No	No	The size of the data disk.	Valid values: • Valid values if you set the Size property to cloud_efficiency: 20 to 32768. • Valid values if you set the Size property to cloud_ssd: 20 to 32768. • Valid values if you set the Size property to cloud_essd: 20 to 32768. • Valid values if you set the Size property to cloud: 5 to 2000. Unit: GiB.

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The category of the data disk.	Valid values: • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: ESSD • cloud: basic disk For I/O optimized instances, the default value is cloud_efficiency. For non-I/O optimized instances, the default value is cloud.
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
DeleteWithInstance	Boolean	No	No	Specifies whether to release the data disk when the instance is released.	Default value: true. Valid values: • true: releases the data disk when the instance is released. • false: does not release the data disk when the instance is released.
SnapshotId	String	No	No	The ID of the snapshot that is used to create the data disk.	If you specify this property, the size of the data disk that is specified by the Size property is ignored. The size of the snapshot that is specified by the SnapshotId property is used as the actual size of the data disk. **Note** If you use snapshots that are created before July 15, 2013, the system reports an error and rejects your request. Therefore, we recommend that you do not use these snapshots.
Encrypted	Boolean	No	No	Specifies whether to encrypt the data disk.	Default value: false. Valid values: • true: encrypts the data disk. • false: does not encrypt the data disk.
KmsKeyId	String	No	No	The ID of the Key Management Service (KMS) key that is used for the data disk.	None.
InternetChargeType	String	No	No	The metering method of the network.	Valid values: • PayByBandwidth: pay-by-bandwidth • PayByTraffic: pay-by-data-transfer **Note** When the pay-by-data-transfer metering method is used, the maximum inbound and outbound bandwidths are used as the maximum bandwidths instead of guaranteed bandwidths. When demands outstrip resource supplies, the maximum bandwidths may be affected. If you require guaranteed bandwidths for your instance, use the pay-by-bandwidth metering method.

Property	Type	Required	Editable	Description	Constraint
PerformanceLevel	String	No	No	The PL of the ESSD that is used as the data disk.	Default value: PL0. Valid values: • PL0: A single ESSD can deliver up to 10,000 random read/write IOPS. • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS.

Tag syntax

```
"Tag": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tag properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- AutoProvisioningGroupId: the ID of the auto provisioning group.
- AutoProvisioningGroupName: the name of the auto provisioning group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TotalTargetCapacity": {
      "Type": "String",
      "Description": "The total target capacity of the auto provisioning group. The target capacity consists\nof the following three parts:\nThe target capacity of pay-as-you-go instances specified by the PayAsYouGoTargetCapacity parameter\nThe target capacity of preemptible instances specified by the SpotTargetCapacity parameter\nThe supplemental capacity besides PayAsYouGoTargetCapacity and SpotTargetCapacity"
    },
    "AutoProvisioningGroupName": {
      "Type": "String",
      "Description": "The name of the auto provisioning group to be created. It must be 2 to 128 characters\nin length. It must start with a letter but cannot start with http:// or https://.\nIt can contain letters, digits, colons (:), underscores (_), and hyphens (-)."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the auto provisioning group."
    },
    "ExcessCapacityTerminationPolicy": {
      "Type": "String",
      "Description": "The shutdown policy for excess preemptible instances followed when the capacity of\nthe auto provisioning group exceeds the target capacity. Valid values:\nno-termination: Excess preemptible instances are not shut down.\ntermination:
```

```
group exceeds the target capacity. Valid values:\nno-termination: Excess preemptible instances are not shut down.\ntermination:
Excess preemptible instances are to be shut down. The action to be performed on these\nshutdown instances is specified by the S
potInstanceInterruptionBehavior parameter.\nDefault value: no-termination",
      "AllowedValues": [
        "no-termination",
        "termination"
      ]
    },
    "LaunchTemplateConfig": {
      "Type": "Json",
      "Description": ""
    },
    "LaunchTemplateId": {
      "Type": "String",
      "Description": "The ID of the instance launch template associated with the auto provisioning group.\nYou can call the Des
cribeLaunchTemplates operation to query available instance launch templates.\nAn auto provisioning group can be associated with
only one instance launch template.\nBut you can configure multiple extended configurations for the launch template through\nthe
LaunchTemplateConfig parameter."
    },
    "CheckExecutionStatus": {
      "Type": "Boolean",
      "Description": "Whether check execution status. If set true, ROS will check the state of AutoProvisioningGroup to be fulf
illed. Otherwise ROS will regard AutoProvisioningGroup create failed.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PayAsYouGoTargetCapacity": {
      "Type": "String",
      "Description": "The target capacity of pay-as-you-go instances in the auto provisioning group."
    },
    "AutoProvisioningGroupType": {
      "Type": "String",
      "Description": "The type of the auto provisioning group. Valid values:\nrequest: One-time delivery. After the auto provis
ioning group is started, it only attempts\nto create an instance cluster once. If the cluster fails to be created, the group\nd
oes not try again.\nmaintain: The continuous delivery and maintain capacity type. After the auto provisioning group\nis started
, it continuously attempts to create and maintain the instance cluster.\nThe auto provisioning group compares the real-time and
target capacity of the cluster.\nIf the cluster does not meet the target capacity, the group will create instances\nuntil the c
luster meets the target capacity.\nDefault value: maintain",
      "AllowedValues": [
        "maintain",
        "request"
      ]
    },
    "SpotInstanceInterruptionBehavior": {
      "Type": "String",
      "Description": "The default behavior after preemptible instances are shut down. Value values:\nstop: stops preemptible in
stances.\nterminate: releases preemptible instances.\nDefault value: stop",
      "AllowedValues": [
        "stop",
        "terminate"
      ]
    },
    "ValidUntil": {
      "Type": "String",
      "Description": "The time when the auto provisioning group expires. The period of time between this\npoint in time and the
point in time specified by the ValidFrom parameter is the effective time period of the auto provisioning group.\nBy default, an
auto provisioning group never expires."
    },
    "TerminateInstancesWithExpiration": {
      "Type": "Boolean",
      "Description": "The shutdown policy for preemptible instances when the auto provisioning group expires.\nValid values:\nt
rue: shuts down preemptible instances. The action to be performed on these shutdown instances\nis specified by the SpotInstance
InterruptionBehavior parameter.\nfalse: does not shut down preemptible instances.\nDefault: false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "DefaultTargetCapacityType": {
```

```
      "Type": "String",
      "Description": "The type of supplemental instances. When the total value of PayAsYouGoTargetCapacity and SpotTargetCapaci
ty is smaller than the value of TotalTargetCapacity, the auto provisioning group will create instances of the specified type to
meet\nthe capacity requirements. Valid values:\nPayAsYouGo: Pay-as-you-go instances.\nSpot: Preemptible instances.\nDefault val
ue: Spot",
      "AllowedValues": [
        "PayAsYouGo",
        "Spot"
      ]
    },
    "LaunchConfiguration": {
      "Type": "Json",
      "Description": ""
    },
    "SpotInstancePoolsToUseCount": {
      "Type": "Number",
      "Description": "This parameter takes effect when the SpotAllocationStrategy parameter is set to lowest-price. The auto pr
ovisioning group selects instance types of the lowest cost to create\ninstances."
    },
    "SpotTargetCapacity": {
      "Type": "String",
      "Description": "The target capacity of preemptible instances in the auto provisioning group."
    },
    "LaunchTemplateVersion": {
      "Type": "String",
      "Description": "The version of the instance launch template associated with the auto provisioning\ngroup. You can call th
e DescribeLaunchTemplateVersions operation to query the versions of available instance launch templates."
    },
    "ValidFrom": {
      "Type": "String",
      "Description": "The time when the auto provisioning group is started. The period of time between this\npoint in time and
the point in time specified by the ValidUntil parameter is the effective time period of the auto provisioning group.\nBy defaul
t, an auto provisioning group is immediately started after creation."
    },
    "MaxSpotPrice": {
      "Type": "Number",
      "Description": "The global maximum price for preemptible instances in the auto provisioning group.\nIf both the MaxSpotPr
ice and LaunchTemplateConfig.N.MaxPrice parameters are specified, the maximum price is the lower value of the two."
    },
    "SpotAllocationStrategy": {
      "Type": "String",
      "Description": "The scale-out policy for preemptible instances. Valid values:\nlowest-price: The cost optimization policy
the auto provisioning group follows to select instance\ntypes of the lowest cost to create instances.\ndiversified: The distrib
ution balancing policy the auto provisioning group follows to evenly create\ninstances across zones specified in multiple exten
ded template configurations.\nDefault value: lowest-price",
      "AllowedValues": [
        "diversified",
        "lowest-price"
      ]
    },
    "TerminateInstances": {
      "Type": "Boolean",
      "Description": "Specifies whether to release instances of the auto provisioning group. Valid values:\ntrue\nfalse\nDefaul
t: false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PayAsYouGoAllocationStrategy": {
      "Type": "String",
      "Description": "The scale-out policy for pay-as-you-go instances. Valid values:\nlowest-price: The cost optimization poli
cy the auto provisioning group follows to select instance\ntypes of the lowest cost to create instances.\nprioritized: The prio
rity-based policy the auto provisioning group follows to create instances.\nThe priority of an instance type is specified by th
e LaunchTemplateConfig.N.Priority parameter.\nDefault value: lowest-price",
      "AllowedValues": [
        "lowest-price",
        "prioritized"
      ]
    }
  },
  "Resources": {
```

```
    "AutoProvisioningGroup": {
      "Type": "ALIYUN::ECS::AutoProvisioningGroup",
      "Properties": {
        "TotalTargetCapacity": {
          "Ref": "TotalTargetCapacity"
        },
        "AutoProvisioningGroupName": {
          "Ref": "AutoProvisioningGroupName"
        },
        "Description": {
          "Ref": "Description"
        },
        "ExcessCapacityTerminationPolicy": {
          "Ref": "ExcessCapacityTerminationPolicy"
        },
        "LaunchTemplateConfig": {
          "Ref": "LaunchTemplateConfig"
        },
        "LaunchTemplateId": {
          "Ref": "LaunchTemplateId"
        },
        "CheckExecutionStatus": {
          "Ref": "CheckExecutionStatus"
        },
        "PayAsYouGoTargetCapacity": {
          "Ref": "PayAsYouGoTargetCapacity"
        },
        "AutoProvisioningGroupType": {
          "Ref": "AutoProvisioningGroupType"
        },
        "SpotInstanceInterruptionBehavior": {
          "Ref": "SpotInstanceInterruptionBehavior"
        },
        "ValidUntil": {
          "Ref": "ValidUntil"
        },
        "TerminateInstancesWithExpiration": {
          "Ref": "TerminateInstancesWithExpiration"
        },
        "DefaultTargetCapacityType": {
          "Ref": "DefaultTargetCapacityType"
        },
        "LaunchConfiguration": {
          "Ref": "LaunchConfiguration"
        },
        "SpotInstancePoolsToUseCount": {
          "Ref": "SpotInstancePoolsToUseCount"
        },
        "SpotTargetCapacity": {
          "Ref": "SpotTargetCapacity"
        },
        "LaunchTemplateVersion": {
          "Ref": "LaunchTemplateVersion"
        },
        "ValidFrom": {
          "Ref": "ValidFrom"
        },
        "MaxSpotPrice": {
          "Ref": "MaxSpotPrice"
        },
        "SpotAllocationStrategy": {
          "Ref": "SpotAllocationStrategy"
        },
        "TerminateInstances": {
          "Ref": "TerminateInstances"
        },
        "PayAsYouGoAllocationStrategy": {
          "Ref": "PayAsYouGoAllocationStrategy"
        }
      }
    }
  },
  "Outputs": {
    "AutoProvisioningGroupName": {
```

```
      "Description": "The name of the auto provisioning group.",
      "Value": {
        "Fn::GetAtt": [
          "AutoProvisioningGroup",
          "AutoProvisioningGroupName"
        ]
      }
    },
    "AutoProvisioningGroupId": {
      "Description": "The ID of the auto provisioning group.",
      "Value": {
        "Fn::GetAtt": [
          "AutoProvisioningGroup",
          "AutoProvisioningGroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoProvisioningGroupName:
    Description: 'The name of the auto provisioning group to be created. It must be
      2 to 128 characters
      in length. It must start with a letter but cannot start with http:// or https://.
      It can contain letters, digits, colons (:), underscores (_), and hyphens (-).'
    Type: String
  AutoProvisioningGroupType:
    AllowedValues:
    - maintain
    - request
    Description: 'The type of the auto provisioning group. Valid values:
      request: One-time delivery. After the auto provisioning group is started, it
      only attempts
      to create an instance cluster once. If the cluster fails to be created, the
      group
      does not try again.
      maintain: The continuous delivery and maintain capacity type. After the auto
      provisioning group
      is started, it continuously attempts to create and maintain the instance cluster.
      The auto provisioning group compares the real-time and target capacity of the
      cluster.
      If the cluster does not meet the target capacity, the group will create instances
      until the cluster meets the target capacity.
      Default value: maintain'
    Type: String
  CheckExecutionStatus:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Whether check execution status. If set true, ROS will check the state
      of AutoProvisioningGroup to be fulfilled. Otherwise ROS will regard AutoProvisioningGroup
      create failed.
    Type: Boolean
  DefaultTargetCapacityType:
    AllowedValues:
    - PayAsYouGo
    - Spot
    Description: 'The type of supplemental instances. When the total value of PayAsYouGoTargetCapacity
      and SpotTargetCapacity is smaller than the value of TotalTargetCapacity, the
      auto provisioning group will create instances of the specified type to meet
      the capacity requirements. Valid values:
      PayAsYouGo: Pay-as-you-go instances.
      Spot: Preemptible instances.
      Default value: Spot'
    Type: String
  Description:
    Description: The description of the auto provisioning group.
    Type: String
```

```
    Type: String
  ExcessCapacityTerminationPolicy:
    AllowedValues:
    - no-termination
    - termination
    Description: 'The shutdown policy for excess preemptible instances followed when
      the capacity of
      the auto provisioning group exceeds the target capacity. Valid values:
      no-termination: Excess preemptible instances are not shut down.
      termination: Excess preemptible instances are to be shut down. The action to
      be performed on these
      shutdown instances is specified by the SpotInstanceInterruptionBehavior parameter.
      Default value: no-termination'
    Type: String
  LaunchConfiguration:
    Description: ''
    Type: Json
  LaunchTemplateConfig:
    Description: ''
    Type: Json
  LaunchTemplateId:
    Description: 'The ID of the instance launch template associated with the auto
      provisioning group.
      You can call the DescribeLaunchTemplates operation to query available instance
      launch templates.
      An auto provisioning group can be associated with only one instance launch template.
      But you can configure multiple extended configurations for the launch template
      through
      the LaunchTemplateConfig parameter.'
    Type: String
  LaunchTemplateVersion:
    Description: 'The version of the instance launch template associated with the
      auto provisioning
      group. You can call the DescribeLaunchTemplateVersions operation to query the
      versions of available instance launch templates.'
    Type: String
  MaxSpotPrice:
    Description: 'The global maximum price for preemptible instances in the auto provisioning
      group.
      If both the MaxSpotPrice and LaunchTemplateConfig.N.MaxPrice parameters are
      specified, the maximum price is the lower value of the two.'
    Type: Number
  PayAsYouGoAllocationStrategy:
    AllowedValues:
    - lowest-price
    - prioritized
    Description: 'The scale-out policy for pay-as-you-go instances. Valid values:
      lowest-price: The cost optimization policy the auto provisioning group follows
      to select instance
      types of the lowest cost to create instances.
      prioritized: The priority-based policy the auto provisioning group follows to
      create instances.
      The priority of an instance type is specified by the LaunchTemplateConfig.N.Priority
      parameter.
      Default value: lowest-price'
    Type: String
  PayAsYouGoTargetCapacity:
    Description: The target capacity of pay-as-you-go instances in the auto provisioning
      group.
    Type: String
  SpotAllocationStrategy:
    AllowedValues:
    - diversified
    - lowest-price
    Description: 'The scale-out policy for preemptible instances. Valid values:
      lowest-price: The cost optimization policy the auto provisioning group follows
      to select instance
      types of the lowest cost to create instances.
      diversified: The distribution balancing policy the auto provisioning group follows
      to evenly create
      instances across zones specified in multiple extended template configurations.
      Default value: lowest-price'
    Type: String
  SpotInstanceInterruptionBehavior:
    AllowedValues:
```

```
    - stop
    - terminate
    Description: 'The default behavior after preemptible instances are shut down.
      Value values:
      stop: stops preemptible instances.
      terminate: releases preemptible instances.
      Default value: stop'
    Type: String
  SpotInstancePoolsToUseCount:
    Description: 'This parameter takes effect when the SpotAllocationStrategy parameter
      is set to lowest-price. The auto provisioning group selects instance types of
      the lowest cost to create
      instances.'
    Type: Number
  SpotTargetCapacity:
    Description: The target capacity of preemptible instances in the auto provisioning
      group.
    Type: String
  TerminateInstances:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to release instances of the auto provisioning
      group. Valid values:
      true
      false
      Default: false'
    Type: Boolean
  TerminateInstancesWithExpiration:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'The shutdown policy for preemptible instances when the auto provisioning
      group expires.
      Valid values:
      true: shuts down preemptible instances. The action to be performed on these
      shutdown instances
      is specified by the SpotInstanceInterruptionBehavior parameter.
      false: does not shut down preemptible instances.
      Default: false'
    Type: Boolean
  TotalTargetCapacity:
    Description: 'The total target capacity of the auto provisioning group. The target
      capacity consists
      of the following three parts:
      The target capacity of pay-as-you-go instances specified by the PayAsYouGoTargetCapacity
      parameter
      The target capacity of preemptible instances specified by the SpotTargetCapacity
      parameter
      The supplemental capacity besides PayAsYouGoTargetCapacity and SpotTargetCapacity'
    Type: String
  ValidFrom:
    Description: 'The time when the auto provisioning group is started. The period
      of time between this
      point in time and the point in time specified by the ValidUntil parameter is
      the effective time period of the auto provisioning group.
      By default, an auto provisioning group is immediately started after creation.'
    Type: String
  ValidUntil:
    Description: 'The time when the auto provisioning group expires. The period of
      time between this
      point in time and the point in time specified by the ValidFrom parameter is
      the effective time period of the auto provisioning group.
      By default, an auto provisioning group never expires.'
    Type: String
Resources:
  AutoProvisioningGroup:
    Properties:
      AutoProvisioningGroupName:
        Ref: AutoProvisioningGroupName
```

```
      AutoProvisioningGroupType:
        Ref: AutoProvisioningGroupType
      CheckExecutionStatus:
        Ref: CheckExecutionStatus
      DefaultTargetCapacityType:
        Ref: DefaultTargetCapacityType
      Description:
        Ref: Description
      ExcessCapacityTerminationPolicy:
        Ref: ExcessCapacityTerminationPolicy
      LaunchConfiguration:
        Ref: LaunchConfiguration
      LaunchTemplateConfig:
        Ref: LaunchTemplateConfig
      LaunchTemplateId:
        Ref: LaunchTemplateId
      LaunchTemplateVersion:
        Ref: LaunchTemplateVersion
      MaxSpotPrice:
        Ref: MaxSpotPrice
      PayAsYouGoAllocationStrategy:
        Ref: PayAsYouGoAllocationStrategy
      PayAsYouGoTargetCapacity:
        Ref: PayAsYouGoTargetCapacity
      SpotAllocationStrategy:
        Ref: SpotAllocationStrategy
      SpotInstanceInterruptionBehavior:
        Ref: SpotInstanceInterruptionBehavior
      SpotInstancePoolsToUseCount:
        Ref: SpotInstancePoolsToUseCount
      SpotTargetCapacity:
        Ref: SpotTargetCapacity
      TerminateInstances:
        Ref: TerminateInstances
      TerminateInstancesWithExpiration:
        Ref: TerminateInstancesWithExpiration
      TotalTargetCapacity:
        Ref: TotalTargetCapacity
      ValidFrom:
        Ref: ValidFrom
      ValidUntil:
        Ref: ValidUntil
    Type: ALIYUN::ECS::AutoProvisioningGroup
Outputs:
  AutoProvisioningGroupId:
    Description: The ID of the auto provisioning group.
    Value:
      Fn::GetAtt:
      - AutoProvisioningGroup
      - AutoProvisioningGroupId
  AutoProvisioningGroupName:
    Description: The name of the auto provisioning group.
    Value:
      Fn::GetAtt:
      - AutoProvisioningGroup
      - AutoProvisioningGroupName
```

To view more examples, visit LaunchTemplate.json and LaunchTemplate.yml. In the examples, the ALIYUN::ECS::LaunchTemplate and ALIYUN::ECS::AutoProvisioningGroup resource types are used.

27.2. ALIYUN::ECS::AutoSnapshotPolicy

ALIYUN::ECS::AutoSnapshotPolicy is used to create an automatic snapshot policy.

Syntax

```
{
  "Type" : "ALIYUN::ECS::AutoSnapshotPolicy",
  "Properties" : {
    "TimePoints" : String,
    "RepeatWeekdays" : String,
    "RetentionDays" : Integer,
    "DiskIds" : List,
    "Tags": List,
    "AutoSnapshotPolicyName" : String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TimePoints	List	Yes	Yes	The points in time at which to create automatic snapshots.	Valid values: 0 to 23. The values correspond to the hours of a day from 00:00 to 23:00. For example, 1 indicates 01:00. Unit: hours. To schedule multiple automatic snapshots to be created in a day, you can specify multiple hours. • You can specify up to 24 hours in a day. • You must specify the parameter as a list. Example: [0, 1, ... 23]. Separate multiple hours with commas (,).
RepeatWeekdays	List	Yes	Yes	The days of a week on which to create automatic snapshots.	Valid values: 1 to 7. The values from 1 to 7 indicate the seven days in a week from Monday to Sunday. Cycle: week. To schedule multiple automatic snapshots to be created in a week, you can specify multiple days. You must specify the parameter as a list. Example: [1, 2, ... 7]. Separate multiple days with commas (,). You can specify up to seven days in a one-week period.
RetentionDays	Integer	Yes	Yes	The number of days for which you want to retain automatic snapshots.	Default value: -1. Valid values: • -1: Automatic snapshots are permanently retained. • 1 to 65535: Automatic snapshots are retained for a specific number of days. Unit: days.
DiskIds	List	No	Yes	The IDs of disks to which you want to apply the automatic snapshot policy.	To apply the automatic snapshot policy to multiple disks, set this parameter to a list in the ["d-xxxxxxxxx", "d-yyyyyyyyy", ... "d-zzzzzzzzz"] format. Separate multiple IDs with commas (,).
Tags	List	No	Yes	The tags of the policy.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

Property	Type	Required	Editable	Description	Constraint
AutoSnapshotPolicyName	String	No	Yes	The name of the automatic snapshot policy.	The name must be 2 to 128 characters in length and can contain letters, digits, colons(:), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`. This parameter is empty by default.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

AutoSnapshotPolicyId: the ID of the automatic snapshot policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TimePoints": {
      "Type": "CommaDelimitedList",
      "Description": "The automatic snapshot creation schedule, and the unit of measurement is hour. Value range: [0, 23], whic
h represents from 00:00 to 24:00, for example 1 indicates 01:00. When you want to schedule multiple automatic snapshot tasks fo
r a disk in a day, you can set the TimePoints to an array.\nA maximum of 24 time points can be selected.\nThe format is a list
of [0, 1, ..., 23] and the time points are separated by commas (,)."
    },
    "DiskIds": {
      "Type": "Json",
      "Description": "The disk ID. When you want to apply the automatic snapshot policy to multiple disks, you can set the Disk
Ids to an array. The format is list of [\"d-xxxxxxxxx\", \"d-yyyyyyyyy\", ..., \"d-zzzzzzzzz\"] and the IDs are separated by co
mmas (,)."
    },
    "RetentionDays": {
      "Type": "Number",
      "Description": "The snapshot retention time, and the unit of measurement is day. Optional values:\n-1: The automatic snap
shots are retained permanently.\n[1, 65536]: The number of days retained.\nDefault value: -1.",
      "MinValue": -1,
      "MaxValue": 65536
    },
    "RepeatWeekdays": {
      "Type": "Json",
      "Description": "The automatic snapshot repetition dates. The unit of measurement is day and the repeating cycle is a week
. Value range: [1, 7], which represents days starting from Monday to Sunday, for example 1 indicates Monday. When you want to s
chedule multiple automatic snapshot tasks for a disk in a week, you can set the RepeatWeekdays to an array.\nA maximum of seven
time points can be selected.\nThe format is a list of [1, 2, ..., 7] and the time points are separated by commas (,)."
```

```
    },
    "AutoSnapshotPolicyName": {
      "Type": "String",
      "Description": "The name of the automatic snapshot policy.\nIt can consist of [2, 128] English or Chinese characters.\nMu
st begin with an uppercase or lowercase letter or a Chinese character. Can contain numbers, periods (.), colons (:), underscore
s (_), and hyphens (-).\nCannot start with http:// or https://.\nDefault value: null."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "AutoSnapshotPolicy": {
      "Type": "ALIYUN::ECS::AutoSnapshotPolicy",
      "Properties": {
        "TimePoints": {
          "Ref": "TimePoints"
        },
        "DiskIds": {
          "Ref": "DiskIds"
        },
        "RetentionDays": {
          "Ref": "RetentionDays"
        },
        "RepeatWeekdays": {
          "Ref": "RepeatWeekdays"
        },
        "AutoSnapshotPolicyName": {
          "Ref": "AutoSnapshotPolicyName"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "AutoSnapshotPolicyId": {
      "Description": "The automatic snapshot policy ID.",
      "Value": {
        "Fn::GetAtt": [
          "AutoSnapshotPolicy",
          "AutoSnapshotPolicyId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoSnapshotPolicyName:
    Description: 'The name of the automatic snapshot policy.
      It can consist of [2, 128] English or Chinese characters.
      Must begin with an uppercase or lowercase letter or a Chinese character. Can
      contain numbers, periods (.), colons (:), underscores (_), and hyphens (-).
      Cannot start with http:// or https://.
      Default value: null.'
    Type: String
  DiskIds:
    Description: The disk ID. When you want to apply the automatic snapshot policy
      to multiple disks, you can set the DiskIds to an array. The format is list of
      ["d-xxxxxxxxx", "d-yyyyyyyyy", ..., "d-zzzzzzzzz"] and the IDs are separated
      by commas (,).
    Type: Json
  RepeatWeekdays:
    Description: 'The automatic snapshot repetition dates. The unit of measurement
      is day and the repeating cycle is a week. Value range: [1, 7], which represents
      days starting from Monday to Sunday, for example 1 indicates Monday. When you
      want to schedule multiple automatic snapshot tasks for a disk in a week, you
      can set the RepeatWeekdays to an array.
      A maximum of seven time points can be selected.
      The format is a list of [1, 2, ..., 7] and the time points are separated by
      commas (,).'
    Type: Json
  RetentionDays:
    Description: 'The snapshot retention time, and the unit of measurement is day.
      Optional values:
      -1: The automatic snapshots are retained permanently.
      [1, 65536]: The number of days retained.
      Default value: -1.'
    MaxValue: 65536
    MinValue: -1
    Type: Number
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  TimePoints:
    Description: 'The automatic snapshot creation schedule, and the unit of measurement
      is hour. Value range: [0, 23], which represents from 00:00 to 24:00, for example
      1 indicates 01:00. When you want to schedule multiple automatic snapshot tasks
      for a disk in a day, you can set the TimePoints to an array.
      A maximum of 24 time points can be selected.
      The format is a list of [0, 1, ..., 23] and the time points are separated by
      commas (,).'
    Type: CommaDelimitedList
Resources:
  AutoSnapshotPolicy:
    Properties:
      AutoSnapshotPolicyName:
        Ref: AutoSnapshotPolicyName
      DiskIds:
        Ref: DiskIds
      RepeatWeekdays:
        Ref: RepeatWeekdays
      RetentionDays:
        Ref: RetentionDays
      Tags:
        Ref: Tags
      TimePoints:
        Ref: TimePoints
    Type: ALIYUN::ECS::AutoSnapshotPolicy
Outputs:
  AutoSnapshotPolicyId:
    Description: The automatic snapshot policy ID.
    Value:
      Fn::GetAtt:
      - AutoSnapshotPolicy
      - AutoSnapshotPolicyId
```

For more examples, visit AutoSnapshotPolicy.json and AutoSnapshotPolicy.yml.

27.3. ALIYUN::ECS::AssignIpv6Addresses

ALIYUN::ECS::AssignIpv6Addresses is used to assign one or more IPv6 addresses to an elastic network interface (ENI).

Syntax

```
{
  "Type": "ALIYUN::ECS::AssignIpv6Addresses",
  "Properties": {
    "Ipv6Addresses": List,
    "Ipv6AddressCount": Integer,
    "NetworkInterfaceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Ipv6Addresses	List	No	No	The list of IPv6 addresses that are assigned to the ENI.	Example: ["2001:db8:1234:1a00::***"]. Only one IPv6 address can be specified. You can specify one of the Ipv6Addresses and Ipv6AddressCount parameters, but you cannot specify both of them.
Ipv6AddressCount	Integer	No	No	The number of randomly generated IPv6 addresses that are assigned to the ENI.	You can specify one of the Ipv6Addresses and Ipv6AddressCount parameters, but you cannot specify both of them.
NetworkInterfaceId	String	Yes	No	The ID of the ENI.	None

Response parameters

Fn::GetAtt

- Ipv6Addresses: the list of IPv6 addresses.
- Ipv6Addresses: the list of IPv6 address IDs.
- NetworkInterfaceId: the ID of the ENI.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AssignIpv6Addresses": {
      "Type": "ALIYUN::ECS::AssignIpv6Addresses",
      "Properties": {
        "Ipv6AddressCount": {
          "Ref": "Ipv6AddressCount"
        },
        "Ipv6Addresses": {
          "Ref": "Ipv6Addresses"
        },
        "NetworkInterfaceId": {
          "Ref": "NetworkInterfaceId"
        }
      }
    }
  },
  "Parameters": {
    "Ipv6AddressCount": {
      "Type": "Number",
      "Description": "IPv6 addresses specified number of randomly generated interfaces elasticity.\nNote You cannot specify the
parameters Ipv6Addresses and Ipv6AddressCount at the same time.",
      "MinValue": 0
    },
    "Ipv6Addresses": {
      "Type": "CommaDelimitedList",
      "Description": "Specify one or more IPv6 addresses for the elastic NIC. Currently, the maximum list size is 1. Example va
lue: 2001:db8:1234:1a00::*** .\nNote You cannot specify the parameters Ipv6Addresses and Ipv6AddressCount at the same time.",
      "MaxLength": 1
    },
    "NetworkInterfaceId": {
      "Type": "String",
      "Description": "Elastic network interface ID."
    }
  },
  "Outputs": {
    "Ipv6AddressIds": {
      "Description": "Assigned IPv6 address IDs.",
      "Value": {
        "Fn::GetAtt": [
          "AssignIpv6Addresses",
          "Ipv6AddressIds"
        ]
      }
    },
    "Ipv6Addresses": {
      "Description": "Assigned IPv6 addresses.",
      "Value": {
        "Fn::GetAtt": [
          "AssignIpv6Addresses",
          "Ipv6Addresses"
        ]
      }
    },
    "NetworkInterfaceId": {
      "Description": "Elastic network interface ID.",
      "Value": {
        "Fn::GetAtt": [
          "AssignIpv6Addresses",
          "NetworkInterfaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AssignIpv6Addresses:
    Type: 'ALIYUN::ECS::AssignIpv6Addresses'
    Properties:
      Ipv6AddressCount:
        Ref: Ipv6AddressCount
      Ipv6Addresses:
        Ref: Ipv6Addresses
      NetworkInterfaceId:
        Ref: NetworkInterfaceId
Parameters:
  Ipv6AddressCount:
    Type: Number
    Description: >-
      IPv6 addresses specified number of randomly generated interfaces
      elasticity.
      Note You cannot specify the parameters Ipv6Addresses and Ipv6AddressCount
      at the same time.
    MinValue: 0
  Ipv6Addresses:
    Type: CommaDelimitedList
    Description: >-
      Specify one or more IPv6 addresses for the elastic NIC. Currently, the
      maximum list size is 1. Example value: 2001:db8:1234:1a00::*** .
      Note You cannot specify the parameters Ipv6Addresses and Ipv6AddressCount
      at the same time.
    MaxLength: 1
  NetworkInterfaceId:
    Type: String
    Description: Elastic network interface ID.
Outputs:
  Ipv6AddressIds:
    Description: Assigned IPv6 address IDs.
    Value:
      'Fn::GetAtt':
        - AssignIpv6Addresses
        - Ipv6AddressIds
  Ipv6Addresses:
    Description: Assigned IPv6 addresses.
    Value:
      'Fn::GetAtt':
        - AssignIpv6Addresses
        - Ipv6Addresses
  NetworkInterfaceId:
    Description: Elastic network interface ID.
    Value:
      'Fn::GetAtt':
        - AssignIpv6Addresses
        - NetworkInterfaceId
```

27.4. ALIYUN::ECS::AssignPrivateIpAddresses

ALIYUN::ECS::AssignPrivateIpAddresses is used to assign one or more secondary private IP addresses to an ENI. You can specify private IP addresses within the CIDR block of the vSwitch that hosts the ENI. You can also specify the number of private IP addresses for ECS to assign them automatically.

Syntax

```
{
  "Type": "ALIYUN::ECS::AssignPrivateIpAddresses",
  "Properties": {
    "NetworkInterfaceId": String,
    "SecondaryPrivateIpAddressCount": Integer,
    "PrivateIpAddresses": List
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
NetworkInterfaceId	String	Yes	No	The ID of the ENI.	None
SecondaryPrivateIpAddressCount	Integer	No	No	The number of private IP addresses assigned to the ENI.	None
PrivateIpAddresses	List	No	No	The list of one or more secondary private IP addresses selected from the CIDR block of the vSwitch that hosts the ENI.	When the ENI is in the Available state, up to 10 IP addresses can be specified. When the ENI is in the InUse state, the number of IP addresses that can be specified depends on the instance type. For more information, see Instance family. To assign secondary private IP addresses, you must specify either the PrivateIpAddress parameter or the SecondaryPrivateIpAddressCount parameter. But you cannot specify both of them.

Response parameters

Fn::GetAtt

- NetworkInterfaceId: the ID of the ENI.
- PrivateIpAddresses: the secondary private IP addresses assigned to the ENI.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AssignPrivateIpAddresses": {
      "Type": "ALIYUN::ECS::AssignPrivateIpAddresses",
      "Properties": {
        "NetworkInterfaceId": {
          "Ref": "NetworkInterfaceId"
        },
        "SecondaryPrivateIpAddressCount": {
          "Ref": "SecondaryPrivateIpAddressCount"
        },
        "PrivateIpAddresses": {
          "Fn::Split": [
            ",",
            {
              "Ref": "PrivateIpAddresses"
            }
          ]
        }
      }
    }
  },
  "Parameters": {
    "NetworkInterfaceId": {
      "Type": "String",
      "Description": "The ID of the ENI."
    },
    "SecondaryPrivateIpAddressCount": {
      "Type": "Number",
      "Description": "The specified number of private IP addresses to be assigned by the ECS instance.",
      "MinValue": 0
    },
    "PrivateIpAddresses": {
      "Type": "CommaDelimitedList",
      "Description": "One or multiple secondary private IP addresses selected from the CIDR block of the vSwitch that hosts the
ENI. Valid values of number of private ip addresses:When the ENI is in the Available state: 1 to 10.When the ENI is in the InUs
e state: limited by the instance type. For more information, see Instance type families. You must specify either the PrivateIpA
ddresses parameter or the SecondaryPrivateIpAddressCount parameter to assign secondary private IP addresses.",
      "MaxLength": 10
    }
  },
  "Outputs": {
    "NetworkInterfaceId": {
      "Description": "The ID of the ENI.",
      "Value": {
        "Fn::GetAtt": [
          "AssignPrivateIpAddresses",
          "NetworkInterfaceId"
        ]
      }
    },
    "PrivateIpAddresses": {
      "Description": "Assigned private ip addresses.",
      "Value": {
        "Fn::GetAtt": [
          "AssignPrivateIpAddresses",
          "PrivateIpAddresses"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AssignPrivateIpAddresses:
    Type: ALIYUN::ECS::AssignPrivateIpAddresses
    Properties:
      NetworkInterfaceId:
        Ref: NetworkInterfaceId
      SecondaryPrivateIpAddressCount:
        Ref: SecondaryPrivateIpAddressCount
      PrivateIpAddresses:
        Fn::Split:
        - ","
        - Ref: PrivateIpAddresses
Parameters:
  NetworkInterfaceId:
    Type: String
    Description: The ID of the ENI.
  SecondaryPrivateIpAddressCount:
    Type: Number
    Description: The specified number of private IP addresses to be assigned by the
      ECS instance.
    MinValue: 0
  PrivateIpAddresses:
    Type: CommaDelimitedList
    Description: 'One or multiple secondary private IP addresses selected from the
      CIDR block of the vSwitch that hosts the ENI. Valid values of number of private
      ip addresses:When the ENI is in the Available state: 1 to 10.When the ENI is
      in the InUse state: limited by the instance type. For more information, see
      Instance type families. You must specify either the PrivateIpAddresses parameter
      or the SecondaryPrivateIpAddressCount parameter to assign secondary private
      IP addresses.'
    MaxLength: 10
Outputs:
  NetworkInterfaceId:
    Description: The ID of the ENI.
    Value:
      Fn::GetAtt:
      - AssignPrivateIpAddresses
      - NetworkInterfaceId
  PrivateIpAddresses:
    Description: Assigned private ip addresses.
    Value:
      Fn::GetAtt:
      - AssignPrivateIpAddresses
      - PrivateIpAddresses
```

27.5. ALIYUN::ECS::Command

ALIYUN::ECS::Command is used to create a Cloud Assistant command.

Syntax

```
{
  "Type": "ALIYUN::ECS::Command",
  "Properties": {
    "Name": String,
    "WorkingDir": String,
    "CommandContent": String,
    "Timeout": Integer,
    "Type": String,
    "Description": String,
    "EnableParameter": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Name	String	No	Yes	The name of the command.	The name must be 1 to 128 characters in length. All character sets are supported.
WorkingDir	String	No	Yes	The working directory on the ECS instance where the command will be run.	Default value: • Linux instance: the home directory of the root user, which is the `/root` directory. • Windows instance: the directory where the Cloud Assistant client process resides, such as `C:\Windows\System32\`.
CommandContent	String	No	No	The Base64-encoded content of the command.	The parameter value must be Base64-encoded and cannot exceed 16 KB in size after encoding. The command content can be specified by using custom parameters. To enable custom parameters, you must set `EnableParameter` to true. • You can define parameters by enclosing them in nested braces {{}}. The spaces and line breaks before and after parameter names in {{}} are ignored. • The number of custom parameters cannot exceed 20. • The name of a custom parameter can contain letters and digits and is case-insensitive. • Each custom parameter name cannot exceed 64 characters in length.
Timeout	Integer	No	Yes	The timeout period that is specified for the command to run on ECS instances.	If the command fails to run within the specified period, the command times out and the command process is forcibly terminated. Default value: 60. Unit: seconds.

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The type of the command.	Valid values: • RunBatScript: creates a batch command for a Windows instance. • RunPowerShellScript: creates a PowerShell command for a Windows instance. • RunShellScript: creates a Shell command for a Linux instance.
Description	String	No	Yes	The description of the command.	The description must be 1 to 512 characters in length. All character sets are supported.
EnableParameter	Boolean	No	No	Specifies whether the created command uses custom parameters.	Default value: false. Valid values: • true • false

Response parameters

Fn::GetAtt

CommandId: the ID of the command.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "WorkingDir": {
      "Type": "String",
      "Description": "The path where command will be executed in the instance."
    },
    "CommandContent": {
      "Type": "String",
      "Description": "The content of command. Content requires base64 encoding. Maximum size support 16KB."
    },
    "Type": {
      "Type": "String",
      "Description": "The type of command."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of command."
    },
    "Timeout": {
      "Type": "Number",
      "Description": "Total timeout when the command is executed in the instance. Input the time unit as second. Default is 60s
."
    },
    "EnableParameter": {
      "Type": "Boolean",
      "Description": "Specifies whether the script contains custom parameters.\nDefault value: false",
      "AllowedValues": [
        true,
        false
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "The name of command."
```

```
    }
  },
  "Resources": {
    "Command": {
      "Type": "ALIYUN::ECS::Command",
      "Properties": {
        "WorkingDir": {
          "Ref": "WorkingDir"
        },
        "CommandContent": {
          "Ref": "CommandContent"
        },
        "Type": {
          "Ref": "Type"
        },
        "Description": {
          "Ref": "Description"
        },
        "Timeout": {
          "Ref": "Timeout"
        },
        "EnableParameter": {
          "Ref": "EnableParameter"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "CommandId": {
      "Description": "The id of command created.",
      "Value": {
        "Fn::GetAtt": [
          "Command",
          "CommandId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  WorkingDir:
    Type: String
    Description: The path where command will be executed in the instance.
  CommandContent:
    Type: String
    Description: >-
      The content of command. Content requires base64 encoding. Maximum size
      support 16KB.
  Type:
    Type: String
    Description: The type of command.
  Description:
    Type: String
    Description: The description of command.
  Timeout:
    Type: Number
    Description: >-
      Total timeout when the command is executed in the instance. Input the time
      unit as second. Default is 60s.
  EnableParameter:
    Type: Boolean
    Description: |-
      Specifies whether the script contains custom parameters.
      Default value: false
    AllowedValues:
      - true
      - false
  Name:
    Type: String
    Description: The name of command.
Resources:
  Command:
    Type: 'ALIYUN::ECS::Command'
    Properties:
      WorkingDir:
        Ref: WorkingDir
      CommandContent:
        Ref: CommandContent
      Type:
        Ref: Type
      Description:
        Ref: Description
      Timeout:
        Ref: Timeout
      EnableParameter:
        Ref: EnableParameter
      Name:
        Ref: Name
Outputs:
  CommandId:
    Description: The id of command created.
    Value:
      'Fn::GetAtt':
        - Command
        - CommandId
```

27.6. ALIYUN::ECS::CopyImage

ALIYUN::ECS::CopyImage is used to copy a custom image from one region to another region.

Syntax

```
{
  "Type": "ALIYUN::ECS::CopyImage",
  "Properties": {
    "Encrypted": Boolean,
    "DestinationImageName": String,
    "ImageId": String,
    "DestinationRegionId": String,
    "SourceRegionId": String,
    "Tag": List,
    "DestinationDescription": String,
    "KMSKeyId": String,
    "ResourceGroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Encrypted	Boolean	No	No	Specifies whether to encrypt the copy of the custom image.	Default value: false. Valid values: • true: encrypts the copy of the custom image. • false: does not encrypt the copy of the custom image.
DestinationImageName	String	No	No	The name of the copy of the custom image.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
ImageId	String	Yes	No	The ID of the source custom image.	None.
DestinationRegionId	String	Yes	No	The ID of the region to which the copy of the custom image belongs.	None.
SourceRegionId	String	No	No	The ID of the region to which the source custom image belongs.	By default, the ID of the current region is used.
Tag	List	No	No	The tags.	For more information, see Tag properties.
DestinationDescription	String	No	No	The description of the copy of the custom image.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
KMSKeyId	String	No	No	The ID of the key that you use to encrypt the custom image.	None.
ResourceGroupId	String	No	No	The ID of the resource group.	None.

Tag syntax

```
"Tag": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tag properties

Property	Type	Required	Editable	Description	Constraint
Key	String	No	No	The key of the tag.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- ImageId: the ID of the copy of the custom image.
- DestinationRegionId: the ID of the region to which the copy of the custom image belongs.
- SourceRegionId: the ID of the region to which the source custom image belongs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": {
    "en": "Create ECS CopyImage"
  },
  "Parameters": {
    "DestinationRegionId": {
      "Type": "String",
      "Description": "ID of the region to where the destination custom image belongs.",
      "Default": "cn-shanghai"
    },
    "SourceRegionId": {
      "Type": "String",
      "Description": "ID of the region to where the source image belongs. Default is current region ID.",
      "Default": "cn-hangzhou"
    },
    "ImageId": {
      "Type": "String",
      "Description": "Image Id, represents the image resource to startup one ECS instance",
      "Label": "ECS Image Id",
      "Default": "m-bp******"
    }
  },
  "Resources": {
    "CopyImage": {
      "Type": "ALIYUN::ECS::CopyImage",
      "Properties": {
        "Encrypted": false,
        "ImageId": {
          "Ref": "ImageId"
        },
        "DestinationRegionId": {
          "Ref": "DestinationRegionId"
        },
        "SourceRegionId": {
          "Ref": "SourceRegionId"
        },
        "DestinationDescription": "Test CopyImage"
      }
    }
  },
  "Outputs": {
    "CopyImageId": {
      "Value": {
        "Fn::GetAtt": [
          "CopyImage",
          "ImageId"
        ]
      }
    }
  }
}
```

To view more examples, visit CustomImage.json and CustomImage.yml. In the examples, the ALIYUN::ECS::CustomImage and ALIYUN::ECS::CopyImage resource types are used.

27.7. ALIYUN::ECS::CustomImage

ALIYUN::ECS::CustomImage is used to create a custom image.

Syntax

```
{
  "Type": "ALIYUN::ECS::CustomImage",
  "Properties": {
    "Description": String,
    "InstanceId": String,
    "ImageName": String,
    "SnapshotId": String,
    "Tag": List,
    "ResourceGroupId": String,
    "Platform": String,
    "DiskDeviceMapping": List,
    "Architecture": String,
    "ImageFamily": String,
    "SourceRegionId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the custom image.	The description must be 2 to 256 characters in length and cannot start with `http://` or `https://`.
InstanceId	String	No	No	The ID of the instance.	If you set this property, an Elastic Compute Service (ECS) instance is used to create the custom image. For more information, see Create a custom image from an instance.
ImageName	String	No	No	The name of the custom image.	The name must be 2 to 128 characters in length. The name must start with a letter but cannot start with `http://` or `https://`. The name can contain letters, digits, underscores (_), and hyphens (-).
SnapshotId	String	No	No	The ID of the snapshot.	If you set this property, a snapshot is used to create the custom image. For more information, see Create a custom image from a snapshot.
Tag	List	No	No	The tags of the custom image.	For more information, see Tag properties.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the custom image belongs.	None
Platform	String	No	No	The distribution of the OS for the system disk in the custom image. If you specify a data disk snapshot to create the system disk of the custom image, you must use the Platform property to specify the distribution of the OS for the system disk.	Default value: Others Linux. Valid values: • CentOS • Ubuntu • SUSE • OpenSUSE • RedHat • Debian • CoreOS • Aliyun • Windows Server 2012 • Windows 7 • Customized Linux • Others Linux
DiskDeviceMapping	List	No	No	The mappings between images and snapshots.	For more information, see DiskDeviceMapping properties.

Property	Type	Required	Editable	Description	Constraint
Architecture	String	No	No	The system architecture of the system disk. If you specify a data disk snapshot to create the system disk of the custom image, you must use the Architecture property to specify the system architecture of the system disk.	Default value: x86_64. Valid values: • i386 • x86_64
ImageFamily	String	No	No	The name of the custom image family.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `acs:` or `aliyun`. The name cannot contain `http://` or `https://`.
SourceRegionId	String	No	No	The ID of the region to which the instance or snapshot belongs.	By default, the ID of the current region is used.

Tag syntax

```
"Tag": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tag properties

Property	Type	Required	Editable	Description	Constraint
Key	String	No	No	The tag key.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

DiskDeviceMapping syntax

```
"DiskDeviceMapping": [
  {
    "Device": String,
    "SnapshotId": String,
    "Size": Integer,
    "DiskType": String
  }
]
```

DiskDeviceMapping properties

Property	Type	Required	Editable	Description	Constraint
Device	String	No	No	The device name of the disk in the custom image.	Valid values: • For basic disks, the system allocates a device name in alphabetical order from `/dev/xvda to /dev/xvdz`. • For disk categories other than basic disks, the system allocates a device name in alphabetical order from `/dev/vda to /dev/vdz`.
SnapshotId	String	No	No	The ID of the snapshot.	None

Size	Integer	No	No	The size of the disk.	Valid values:
					• If you do not specify the SnapshotId property:
					  ○ Valid values for basic disks: 5 to 2000.
					  Default value: 5.
					  ○ Valid values for disk categories other than basic disks: 20 to 32768.
					  Default value: 20.
					• If you specify the SnapshotId property, the value of the Size property must be greater than or equal to the value of the SnapshotId property. The default value of the Size property is the same as that of the SnapshotId property.
					Unit: GiB.

DiskType	String	No	No	The type of the disk in the custom image.	You can set this property to create the system disk for the custom image from a data disk snapshot. If you do not set this property, the disk type varies based on the snapshot that is used. Valid values: • system: system disk • data: data disk

Return values

Fn::GetAtt

ImageId: the ID of the custom image.

SourceRegionId: the ID of the region to which the instance or snapshot belongs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": {
    "en": "Create ECS Custom Image"
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Default": "i-*****"
    },
    "ImageName": {
      "Type": "String",
      "Default": "myImageName"
    }
  },
  "Resources": {
    "CustomImage": {
      "Type": "ALIYUN::ECS::CustomImage",
      "Properties": {
        "InstanceId": {
          "Fn::GetAtt": [
            "Instance",
            "InstanceId"
          ]
        },
        "ImageName": {
          "Ref": "ImageName"
        }
      }
    }
  },
  "Outputs": {
    "ImageId": {
      "Value": {
        "Fn::GetAtt": [
          "CustomImage",
          "ImageId"
        ]
      }
    }
  }
}
```

To view more examples, visit CustomImage.json and CustomImage.yml. In the examples, the ALIYUN::ECS::CopyImage and ALIYUN::ECS::CustomImage resource types are used.

27.8. ALIYUN::ECS::DedicatedHost

ALIYUN::ECS::DedicatedHost is used to create a dedicated host.

Syntax

```
{
  "Type": "ALIYUN::ECS::DedicatedHost",
  "Properties": {
    "DedicatedHostType": String,
    "DedicatedHostName": String,
    "PeriodUnit": String,
    "AutoReleaseTime": String,
    "Description": String,
    "AutoPlacement": String,
    "Tags": List,
    "AutoRenewPeriod": Number,
    "ActionOnMaintenance": String,
    "Period": Number,
    "AutoRenew": String,
    "NetworkAttributesSlbUdpTimeout": Integer,
    "ChargeType": String,
    "ResourceGroupId": String,
    "ZoneId": String,
    "NetworkAttributesUdpTimeout": Integer,
    "Quantity": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DedicatedHostType	String	Yes	No	The type of the dedicated host.	None
DedicatedHostName	String	No	No	The name of the dedicated host.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter but cannot start with `http://` or `https://`.
PeriodUnit	String	No	No	The unit of the billing cycle.	Default value: Month. Valid values: • Week • Month • Year
AutoReleaseTime	String	No	No	The time that is scheduled for the dedicated host to be automatically released.	If you do not specify the AutoReleaseTime parameter, the dedicated host is automatically released. The scheduled release time must be within the range of 30 minutes to three years from the current time. If the value of `ss` is not `00`, the start time is rounded to the nearest minute based on the value of `mm`.
Description	String	No	No	The description of the dedicated host.	None
AutoRenewPeriod	Number	No	No	The auto-renewal period of the dedicated host.	Valid values: 1, 2, 3, 6, and 12. Unit: months.
Period	Number	No	No	The subscription period of the dedicated host.	• Valid values when the PeriodUnit parameter is set to Week: 1, 2, and 3. • Valid values when the PeriodUnit parameter is set to Month: 1, 2, 3, 4, 5, 6, 7, 8, and 9. • Valid values when the PeriodUnit parameter is set to Year: 1, 2, 3, 4, and 5.

Property	Type	Required	Editable	Description	Constraint
ZoneId	String	No	No	The ID of the zone where the dedicated host resides.	This parameter is empty by default. If this parameter is not specified, the system automatically selects a zone.
AutoRenew	String	No	No	Specifies whether to enable auto-renewal for the dedicated host.	Default value: False. Valid values: • True • False
ChargeType	String	No	No	The billing method of the dedicated host.	Valid values: • PrePaid: subscription. If you set this parameter to PrePaid, make sure that you have a valid payment method. Otherwise, an `InvalidPayMethod` error is returned. • PostPaid: pay-as-you-go.
AutoPlacement	String	No	No	Specifies whether to add the dedicated host to the resource pool for automatic deployment.	Default value: on. Valid values: • on: The dedicated host is added to the resource pool for automatic deployment • off: The dedicated host is not added to the resource pool for automatic deployment. If you do not specify the DedicatedHostId parameter when you create an ECS instance on a dedicated host, Alibaba Cloud automatically selects a dedicated host from the resource pool to host the instance. For more information, see Features.
Tags	List	No	Yes	The custom tags of the instance.	A maximum of 20 tags can be specified in the `[{"Key": "tagKey", "Value": "tagValue"},{"Key": "tagKey2", "Value": "tagValue2"}]` format. For more information, see the Tags properties section in this topic.
ActionOnMaintenance	String	No	No	The policy that is used to migrate the instances from the dedicated host when the dedicated host fails or needs to be repaired online.	Valid values: • Migrate: The instances are migrated to another physical server and restarted. • Stop: The instances on the dedicated host are stopped. If the dedicated host cannot be repaired, the instances are migrated to another physical server and restarted. If the dedicated host is attached with cloud disks, the default value is Migrate. If the dedicated host is attached with local disks, the default value is Stop.
NetworkAttributesSlbUdpTimeout	Integer	No	No	The timeout period for a UDP session between Server Load Balancer (SLB) and the dedicated host.	Valid values: 15 to 310. Unit: seconds.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the dedicated host belongs.	None

Property	Type	Required	Editable	Description	Constraint
NetworkAttributesUdpTimeout	Integer	No	No	The timeout period for a UDP session between a user and an Alibaba Cloud service on the dedicated host.	Valid values: 15 to 310. Unit: seconds.
Quantity	Integer	No	No	The number of dedicated hosts that you want to create.	Valid values: 1 to 100 Default value: 1.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- OrderId: the order ID.
- DedicatedHostIds: the list of dedicated host IDs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters":
  {
    "AutoRenewPeriod": {
      "Type":
    "Number",
      "Description": "The time period of auto renew.
      When the parameter InstanceChargeType is PrePaid, it will take effect. It could be 1, 2, 3, 6, 12. Default value is 1.",
      "AllowedValues": [
        1,
        2,
        3,
        6,
        12
      ],
      "Default": 1
    },
    "Description": {
      "Type":
      "String",
      "Description": "The description of host."
        },
    "NetworkAttributesSlbUdpTimeout":
```

```
        {
      "Type":
        "Number",
      "Description":
        "The duration of UDP timeout for sessions between Server Load Balancer (SLB) and the dedicated host.
        Unit: seconds.
      Valid values:
      15 to 310.", "MinValue":
    15,
      "MaxValue":
    310
    },
    "ResourceGroupId": {
      "Type":
      "String",
      "Description": "The ID of the resource group.
      If this is left blank, the system automatically fills in the ID of the default resource group." },
    "ZoneId":
    {
      "Type":
    "String",
      "Description": "The zone to create the host."
      },
    "NetworkAttributesUdpTimeout": {
      "Type":
      "Number",
      "Description": "The duration of UDP timeout for sessions between users and instances on the dedicated host. Unit: seconds
. Valid values: 15 to 310.",
      "MinValue": 15,
      "MaxValue":
      310
    },
    "AutoRenew": {
      "Type":
    "String",
      "Description":
    "Whether renew the fee automatically? When the parameter InstanceChargeType is PrePaid, it will take effect.
      Range of value:True: automatic renewal.False: no automatic renewal. Default value is False.",
      "AllowedValues": [
        "True",
        "False"
      ],
      "Default": "False"
    },
    "AutoPlacement":
    {
      "Type":
    "String",
      "Description": "Specifies whether the dedicated host is added to the resource pool for automatic deployment.
      If you do not specify the DedicatedHostId parameter when you create an instance on a dedicated host, Alibaba Cloud automa
tically selects a dedicated host from the resource pool to host the instance. For more information, see Automatic deployment.
      Valid values:on: The dedicated host is added to the resource pool for automatic deployment.off:
    The dedicated host is not added to the resource pool for automatic deployment.Default value: on.Note When you create a dedi
cated host:
    If you do not specify this parameter, the dedicated host is added to the automatic deployment resource pool. If you do not
want to add the dedicated host to the automatic deployment resource pool, set the value to off.", "AllowedValues":
      [
        "on",
        "off"
      ]
    },
    "Period": {
      "Type":
      "Number",
      "Description": "Prepaid time period. Unit is month, it could be from 1 to 9 or 12, 24, 36, 48, 60. Default value is 1.",
"AllowedValues":
      [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
```

```
        8,
        9,
        12,
        24,
        36,
        48,
        60
      ],
      "Default": 1
    },
    "Quantity":
      {
      "Type": "Number",
      "Description":
    "The number of dedicated hosts that you want to create.
    Valid values: 1 to 100.Default value:
      1.", "MinValue":
      1,
      "MaxValue": 100,
      "Default": 1
    },
    "DedicatedHostType": {
      "Type": "String",
      "Description":
      "The instance type of host." },
    "DedicatedHostName":
        {
      "Type":
        "String",
      "Description":
      "The name of the dedicated host, [2, 128] English or Chinese characters.
      It must begin with an uppercase/lowercase letter or a Chinese character, and may contain numbers, '_' or '-'. It cannot b
egin with http:// or https://." },
    "ChargeType":
    {
      "Type":
    "String",
      "Description": "Instance Charge type, allowed value:
      Prepaid and Postpaid. If specified Prepaid, please ensure you have sufficient balance in your account.
      Or instance creation will be failure. Default value is Postpaid.", "AllowedValues": [
        "PrePaid",
        "PostPaid"
      ],
      "Default": "PostPaid"
    },
    "ActionOnMaintenance": {
      "Type": "String",
      "Description": "The policy used to migrate the instances from the dedicated hostwhen the dedicated host fails or needs to
be repaired online.Valid values:
      Migrate: Instances are migrated to another physical server and restarted. If the dedicated host is attached with disks th
at are not local disks, the default value is Migrate.Stop:
        Instances on the dedicated host are stopped.
        If the dedicated host cannot be repaired,the instances are migrated to another physical server and restarted. If the de
dicated host is attached with local disks, the default value is Stop.",
      "AllowedValues":
    [
        "Migrate",
        "Stop"
      ]
    },
    "Tags":
    {
      "Type": "Json",
      "Description":
      "Tags to attach to DedicatedHost. Max support 20 tags to add during create DedicatedHost.
      Each tag with two properties Key and Value, and Key is required.", "MaxLength": 20
    },
    "PeriodUnit": {
      "Type":
      "String",
      "Description": "Unit of prepaid time period, it could be Week/Month/Year.
        Default value is Month.",
        "AllowedValues":
        [
        "Week"
```

```
        "Week",
        "Month",
        "Year"
      ],
      "Default":
        "Month"
    },
    "AutoReleaseTime":
        {
      "Type":
        "String",
      "Description":
        "Auto release time for created host, Follow ISO8601 standard using UTC time. format is 'yyyy-MM-ddTHH:mm:ssZ'.
        Not bigger than 3 years from this day onwards"
    }
  },
  "Resources":
        {
    "Host":
        {
      "Type":
        "ALIYUN::ECS::DedicatedHost",
      "Properties":
        {
        "AutoRenewPeriod":
        {
          "Ref":
        "AutoRenewPeriod"
        },
        "Description":
      {
          "Ref":
      "Description"
        },
        "NetworkAttributesSlbUdpTimeout": {
          "Ref":
    "NetworkAttributesSlbUdpTimeout"
        },
        "ResourceGroupId":
    {
          "Ref": "ResourceGroupId"
        },
        "ZoneId":
      {
          "Ref": "ZoneId"
        },
        "NetworkAttributesUdpTimeout":
      {
          "Ref": "NetworkAttributesUdpTimeout"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "AutoPlacement":{
          "Ref": "AutoPlacement"
        },
        "Period":
      {
          "Ref": "Period"
        },
        "Quantity":
      {
          "Ref": "Quantity"
        },
        "DedicatedHostType":
      {
          "Ref": "DedicatedHostType"
        },
        "DedicatedHostName":
    {
          "Ref":
    "DedicatedHostName"
        },
        "ChargeType": {
          "Ref":
```

```
      "ChargeType"
        },
        "ActionOnMaintenance": {
          "Ref":
      "ActionOnMaintenance"
        },
        "Tags": {
          "Ref":
    "Tags"
        },
        "PeriodUnit":
    {
          "Ref": "PeriodUnit"
        },
        "AutoReleaseTime":
      {
          "Ref": "AutoReleaseTime"
        }
      }
    }
  },
  "Outputs":
      {
    "OrderId": {
      "Description": "The order id list of created instance.", "Value":
    {
        "Fn::GetAtt":
    [
          "Host",
          "OrderId"
        ]
      }
    },
    "DedicatedHostIds": {
      "Description":
      "The host id list of created hosts",
      "Value": {
        "Fn::GetAtt":
      [
          "Host",
          "DedicatedHostIds"
        ]
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoRenewPeriod:
    Type: Number
    Description:
    >-
      The time period of auto renew. When the parameter InstanceChargeType is
      PrePaid, it will take effect. It could be 1, 2, 3, 6, 12.
      Default value is
      1. AllowedValues:
      - 1
      - 2
      - 3
      - 6
      - 12
    Default: 1
  Description:
      Type:
    String
    Description:
      The description of host.
      NetworkAttributesSlbUdpTimeout:
      Type:
      Number
```

```
    Description:
      >-
      The duration of UDP timeout for sessions between Server Load Balancer
      (SLB) and the dedicated host.
    Unit: seconds. Valid values:
  15 to 310.
    MinValue: 15
    MaxValue:
    310
  ResourceGroupId: Type:
  String
    Description:
    >-
      The ID of the resource group. If this is left blank, the system
      automatically fills in the ID of the default resource group.
    ZoneId: Type:
      String
    Description:
      The zone to create the host. NetworkAttributesUdpTimeout: Type: Number
    Description:
    >-
      The duration of UDP timeout for sessions between users and instances on
      the dedicated host. Unit: seconds.
    Valid values: 15 to 310.
  MinValue:
    15
    MaxValue: 310
  AutoRenew:
    Type: String
    Description:
      >-
      Whether renew the fee automatically? When the parameter InstanceChargeType
      is PrePaid, it will take effect.
      Range of value:True: automatic
      renewal.False: no automatic renewal.
  Default value is False.
    AllowedValues: - 'True'
      - 'False'
    Default:
    'False'
  AutoPlacement: Type:
  String
    Description:
    >-
      Specifies whether the dedicated host is added to the resource pool for
      automatic deployment. If you do not specify the DedicatedHostId parameter
      when you create an instance on a dedicated host, Alibaba Cloud
      automatically selects a dedicated host from the resource pool to host the
      instance.
    For more information, see Automatic deployment. Valid values:on:
      The dedicated host is added to the resource pool for automatic
      deployment.off:
      The dedicated host is not added to the resource pool for
      automatic deployment.Default value: on.Note When you create a dedicated
      host: If you do not specify this parameter, the dedicated host is added to
      the automatic deployment resource pool. If you do not want to add the
      dedicated host to the automatic deployment resource pool, set the value to
      off. AllowedValues: - 'on'
      - 'off'
  Period:
    Type: Number
    Description:
    >-
      Prepaid time period. Unit is month, it could be from 1 to 9 or 12, 24, 36,
      48, 60.
  Default value is 1.
    AllowedValues: - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
```

```
      - 9
      - 12
      - 24
      - 36
      - 48
      - 60
    Default:
    1
  Quantity: Type:
      Number
    Description: >-
      The number of dedicated hosts that you want to create.
      Valid values: 1 to
      100.Default value:
      1. MinValue:
    1
    MaxValue:
      100
    Default:
      1
  DedicatedHostType:
    Type: String
    Description:
  The instance type of host.
    DedicatedHostName: Type:
    String
    Description: >-
      The name of the dedicated host, [2, 128] English or Chinese characters.
      It
      must begin with an uppercase/lowercase letter or a Chinese character, and
      may contain numbers, '_' or '-'. It cannot begin with http:// or https://.
      ChargeType: Type:
      String
    Description:
      >-
      Instance Charge type, allowed value:
      Prepaid and Postpaid. If specified
      Prepaid, please ensure you have sufficient balance in your account. Or
      instance creation will be failure.
      Default value is Postpaid.
      AllowedValues: - PrePaid
      - PostPaid
    Default:
      PostPaid
  ActionOnMaintenance:
      Type: String
    Description:
      >-
      The policy used to migrate the instances from the dedicated hostwhen the
      dedicated host fails or needs to be repaired online.Valid values:
      Migrate:
      Instances are migrated to another physical server and restarted.If the
      dedicated host is attached with disks that are not local disks, the
      default value is Migrate.Stop:
    Instances on the dedicated host are
      stopped.
      If the dedicated host cannot be repaired,the instances are
      migrated to another physical server and restarted. If the dedicated host is
      attached with local disks, the default value is Stop.
      AllowedValues:
  - Migrate
      - Stop
  Tags:
    Type: Json
    Description:
    >-
      Tags to attach to DedicatedHost. Max support 20 tags to add during create
      DedicatedHost.
      Each tag with two properties Key and Value, and Key is
      required. MaxLength:
      20
  PeriodUnit: Type:
    String
    Description:
      >-
```

```
      >-
      Unit of prepaid time period, it could be Week/Month/Year.
      Default value is
      Month.
      AllowedValues:
      - Week
      - Month
      - Year
    Default:
      Month
  AutoReleaseTime:
      Type:
      String
    Description:
      >-
      Auto release time for created host, Follow ISO8601 standard using UTC
      time. format is 'yyyy-MM-ddTHH:mm:ssZ'.
      Not bigger than 3 years from this
      day onwards
Resources:
      Host:
      Type:
      'ALIYUN::ECS::DedicatedHost'
    Properties:
      AutoRenewPeriod:
      Ref:
    AutoRenewPeriod
      Description: Ref:
  Description
      NetworkAttributesSlbUdpTimeout:
    Ref: NetworkAttributesSlbUdpTimeout
      ResourceGroupId:
    Ref: ResourceGroupId
      ZoneId:
      Ref: ZoneId
      NetworkAttributesUdpTimeout: Ref:
      NetworkAttributesUdpTimeout
      AutoRenew:Ref: AutoRenew
      AutoPlacement:
    Ref: AutoPlacement
      Period:
    Ref: Period
      Quantity:
    Ref: Quantity
      DedicatedHostType:
  Ref:
    DedicatedHostType
      DedicatedHostName: Ref:
    DedicatedHostName
      ChargeType: Ref:
  ChargeType
      ActionOnMaintenance:
    Ref: ActionOnMaintenance
      Tags:
    Ref: Tags
      PeriodUnit:
      Ref: PeriodUnit
      AutoReleaseTime:
      Ref:
      AutoReleaseTime
Outputs: OrderId:
  Description:
    The order id list of created instance. Value:
    'Fn::GetAtt': - Host
        - OrderId
  DedicatedHostIds:
      Description: The host id list of created hosts
    Value: 'Fn::GetAtt':
      - Host
        - DedicatedHostIds
```

For more examples, visit DedicatedHost.json and DedicatedHost.yml.

27.9. ALIYUN::ECS::DeploymentSet

ALIYUN::ECS::DeploymentSet is used to create a deployment set in a specified region.

Syntax

```
{
  "Type": "ALIYUN::ECS::DeploymentSet",
  "Properties": {
    "DeploymentSetName": String,
    "Description": String,
    "OnUnableToRedeployFailedInstance": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DeploymentSetName	String	No	Yes	The name of the deployment set.	The name must be 2 to 128 characters in length. It must start with a letter and cannot start with `http://` or `https://`. The name can contain letters, digits, colons (:), underscores (_), and hyphens (-).
Description	String	No	Yes	The description of the deployment set.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
OnUnableToRedeployFailedInstance	String	No	No	The emergency solution to redeploy failed instances in the deployment set.	Valid values: • CancelMembershipAndStart: restarts the instances immediately after they are shut down and migrated to other deployment sets. This is the default value. • KeepStopped: keeps the instances shut down and restarts them after the deployment set is replenished.

Response parameters

Fn::GetAtt

DeploymentSetId: the ID of the deployment set.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DeploymentSet": {
      "Type": "ALIYUN::ECS::DeploymentSet",
      "Properties": {
        "DeploymentSetName": {
          "Ref": "DeploymentSetName"
        },
        "Description": {
          "Ref": "Description"
        },
        "OnUnableToRedeployFailedInstance": {
          "Ref": "OnUnableToRedeployFailedInstance"
        }
      }
    }
  },
  "Parameters": {
    "DeploymentSetName": {
      "Type": "String",
      "Description": "The name of the deployment set. It must be 2 to 128 characters in length. It must\nstart with a letter an
d cannot start with http:// or https://. It can contain letters,\ndigits, colons (:), underscores (_), and hyphens (-)."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the deployment set. It must be 2 to 256 characters in length. It\ncannot start with ht
tp:// or https://."
    },
    "OnUnableToRedeployFailedInstance": {
      "Type": "String",
      "Description": "The emergency solution to redeploy failed instances in the deployment set. Valid values:\nCancelMembershi
pAndStart: restarts the instances immediately after they are shut down\nand migrated to other deployment sets. This is the defa
ult value.\nKeepStopped: keeps the instances shut down and restarts them after the deployment\nset is replenished.",
      "AllowedValues": [
        "CancelMembershipAndStart",
        "KeepStopped"
      ]
    }
  },
  "Outputs": {
    "DeploymentSetId": {
      "Description": "The ID of the deployment set.",
      "Value": {
        "Fn::GetAtt": [
          "DeploymentSet",
          "DeploymentSetId"
        ]
      }
    }
  }
}
```

27.10. ALIYUN::ECS::Disk

ALIYUN::ECS::Disk is used to create a disk for an Elastic Compute Service (ECS) instance.

Syntax

```
{
  "Type": "ALIYUN::ECS::Disk",
  "Properties": {
    "StorageSetId": String,
    "Description": String,
    "Tags": List,
    "AutoSnapshotPolicyId": String,
    "Encrypted": Boolean,
    "DiskName": String,
    "DiskCategory": String,
    "ResourceGroupId": String,
    "KMSKeyId": String,
    "DeleteAutoSnapshot": Boolean,
    "SnapshotId": String,
    "StorageSetPartitionNumber": Integer,
    "PerformanceLevel": String,
    "ZoneId": String,
    "Size": Integer,
    "BurstingEnabled": Boolean,
    "ProvisionedIops": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the disk belongs.	None
ZoneId	String	Yes	No	The ID of the zone.	None
DiskName	String	No	No	The name of the disk.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
Description	String	No	No	The description of the disk.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
Tags	List	No	No	The tags of the disk.	You can specify up to 20 tags. For more information, see Tags properties.
DiskCategory	String	No	No	The category of the disk.	Default value: cloud. Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: standard SSD • cloud_essd: enhanced SSD (ESSD)
SnapshotId	String	No	No	The ID of the snapshot.	If you set the SnapshotId property and the Size property at the same time, the SnapshotId property takes precedence. The actual size of the created disk is the size of the specified snapshot. **Note** Snapshots that were created on or before July 15, 2013 cannot be used to create disks.

Property	Type	Required	Editable	Description	Constraint
PerformanceLevel	String	No	No	The performance level of the ESSD.	Default value: PL1. Valid values: • PL0: A single ESSD can deliver up to 10,000 random read/write IOPS. • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS. For more information about performance levels of ESSDs, see ESSDs.
Size	Integer	No	No	The size of the disk.	• Valid values if you set the DiskCategory property to cloud: 5 to 2000. • Valid values if you set the DiskCategory property to cloud_efficiency: 20 to 32768. • Valid values if you set the DiskCategory property to cloud_ssd: 20 to 32768. • Valid values if you set the DiskCategory property to cloud_essd: 20 to 32768. Unit: GiB. The value of this property must be greater than or equal to the size of the specified snapshot.
BurstingEnabled	Boolean	No	No	Specifies whether to enable bursting.	Default value: false. Valid values: • true: enables bursting. • false: disables bursting.
ProvisionedIops	Integer	No	No	The provisioned IOPS volume.	None
AutoSnapshotPolicyId	String	No	No	The ID of the automatic snapshot policy.	None
Encrypted	Boolean	No	No	Specifies whether to encrypt the disk.	Default value: false. Valid values: • true: encrypts the disk. • false: does not encrypt the disk.
DeleteAutoSnapshot	Boolean	No	No	Specifies whether to delete automatic snapshots of a disk when the disk is released.	Default value: true. Valid values: • true : deletes automatic snapshots of a disk when the disk is released. • false: does not delete automatic snapshots of a disk when the disk is released.
StorageSetId	String	No	No	The ID of the storage set.	None
KMSKeyId	String	No	No	The ID of the Key Management Service (KMS) key used by the disk.	None
StorageSetPartitionNumber	Integer	No	No	The number of partitions in the storage set.	None

Tags syntax

```
"Tags" : [
  {
    "Value" : String,
    "Key" : String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- DiskId: the ID of the disk.
- Status: the status of the disk.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "DataDisk": {
      "Type": "ALIYUN::ECS::Disk",
      "Properties": {
        "Size": 10,
        "ZoneId": "cn-beijing-a",
        "DiskName": "DataDisk",
        "Description": "ECSDataDisk"
      }
    }
  },
  "Outputs": {
    "DiskId": {
         "Value" : {"Fn::GetAtt": ["DataDisk","DiskId"]}
    },
    "Status": {
         "Value" : {"Fn::GetAtt": ["DataDisk","Status"]}
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DataDisk:
    Type: 'ALIYUN::ECS::Disk'
    Properties:
      Size: 10
      ZoneId: cn-beijing-a
      DiskName: DataDisk
      Description: ECSDataDisk
Outputs:
  DiskId:
    Value:
      'Fn::GetAtt':
        - DataDisk
        - DiskId
  Status:
    Value:
      'Fn::GetAtt':
        - DataDisk
        - Status
```

To view more examples, visit Disk.json and Disk.yml.

27.11. ALIYUN::ECS::DiskAttachment

ALIYUN::ECS::DiskAttachment is used to attach a disk to an ECS instance.

Syntax

```
{
  "Type": "ALIYUN::ECS::DiskAttachment",
  "Properties": {
    "InstanceId": String,
    "Device": String,
    "DeleteWithInstance": Boolean,
    "DiskId": String,
    "DeleteAutoSnapshot": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the ECS instance to which you want to attach the disk.	None
DiskId	String	Yes	No	The ID of the disk.	The disk and ECS instance must reside within the same zone.
Device	String	No	No	The device name of the disk.	If you do not set this parameter, the system automatically allocates a device name in alphabetical order from /dev/xvdb to /dev/xvdz.

Property	Type	Required	Editable	Description	Constraint
DeleteWithInstance	Boolean	No	No	Specifies whether to release the disk together with the instance.	Valid values: • true: releases the disk when the instance is released. • false: retains the disk when the instance is released.
DeleteAutoSnapshot	Boolean	No	No	Specifies whether to delete automatic snapshots of the disk when the disk is released.	Default value: true. Valid values: • true: • false

Response parameters

Fn::GetAtt

- DiskId: the ID of the created disk.
- Status: the status of the created disk.
- Device: the device name of the created disk.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DiskAttachment": {
      "Type": "ALIYUN::ECS::DiskAttachment",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "Device": {
          "Ref": "Device"
        },
        "DeleteWithInstance": {
          "Ref": "DeleteWithInstance"
        },
        "DiskId": {
          "Ref": "DiskId"
        }
      }
    }
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The instanceId to attach the disk."
    },
    "Device": {
      "Type": "String",
      "Description": "The device where the volume is exposed on the instance. could be /dev/xvd[a-z]. If not specification, wil
l use default value."
    },
    "DeleteWithInstance": {
      "Type": "Boolean",
      "Description": "If property is true, the disk will be deleted while instance is deleted, if property is false, the disk w
ill be retain after instance is deleted.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "DiskId": {
      "Type": "String",
      "Description": "The disk id to attached."
```

```
    }
  },
  "Outputs": {
    "Status": {
      "Description": "The disk status now.",
      "Value": {
        "Fn::GetAtt": [
          "DiskAttachment",
          "Status"
        ]
      }
    },
    "Device": {
      "Description": "The device where the volume is exposed on ecs instance.",
      "Value": {
        "Fn::GetAtt": [
          "DiskAttachment",
          "Device"
        ]
      }
    },
    "DiskId": {
      "Description": "The disk id of created disk",
      "Value": {
        "Fn::GetAtt": [
          "DiskAttachment",
          "DiskId"
        ]
      }
    }
  }
}
```

27.12. ALIYUN::ECS::ForwardEntry

ALIYUN::ECS::ForwardEntry is used to configure the Destination Network Address Translation (DNAT) table of a Network Address Translation (NAT) gateway.

Syntax

```
{
  "Type": "ALIYUN::ECS::ForwardEntry",
  "Properties": {
    "ExternalIp": String,
    "ExternalPort": String,
    "ForwardTableId": String,
    "InternalIp": String,
    "IpProtocol": String,
    "InternalPort": String,
    "PortBreak": Boolean,
    "ForwardEntryName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ExternalIp	String	Yes	No	The public IP address.	The value of the ExternalIp property must be an IP address that is included in the shared service plan of the NAT gateway to which the DNAT table belongs.
ExternalPort	String	Yes	No	The public port number.	Valid values: 1 to 65535.

Property	Type	Required	Editable	Description	Constraint
ForwardTableId	String	Yes	No	The ID of the DNAT table.	None
InternalIp	String	Yes	No	The destination IP address to which you want to forward the request.	The value of the InternalIp property must be a private IP address.
IpProtocol	String	Yes	No	The protocol type.	Valid values: • TCP • UDP • Any
InternalPort	String	Yes	No	The port number of the private network.	Valid values: 1 to 65535.
PortBreak	Boolean	No	No	Specifies whether to remove limits on the port range.	Default value: false. Valid values: • true: removes limits on the port range. • false: does not remove limits on the port range. **Note** If an SNAT entry and a DNAT entry use the same public IP address and you want to specify a port number that is greater than 1024, set the Portbreak property to true.
ForwardEntryName	String	No	No	The name of the DNAT entry.	The name must be 2 to 128 characters in length and must start with a letter. The name cannot start with `http://` or `https://`.

Return values

Fn::GetAtt

ForwardEntryId: the ID of each entry in the DNAT table.

Examples

`JSON` format

```
{
  "Parameters": {
    "ExternalPort": {
      "Type": "String",
      "Description": "Source port, now support [1-65535]|Any|x/y"
    },
    "ExternalIp": {
      "Type": "String",
      "Description": "Source IP, must belongs to bandwidth package internet IP"
    },
    "IpProtocol": {
      "Type": "String",
      "Description": "Supported protocol, Now support 'TCP|UDP|Any'",
      "AllowedValues": [
        "TCP",
```

```
        "UDP",
        "Any"
      ]
    },
    "PortBreak": {
      "Type": "Boolean",
      "Description": "Specifies whether to remove limits on the port range.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "InternalPort": {
      "Type": "String",
      "Description": "Destination port, now support [1-65535]|Any|x/y"
    },
    "ForwardEntryName": {
      "Type": "String",
      "Description": "the name of the DNAT rule is 2-128 characters long and must start with a letter or Chinese, but cannot be
gin with HTTP:// or https://."
    },
    "InternalIp": {
      "Type": "String",
      "Description": "Destination IP, must belong to VPC private IP"
    },
    "ForwardTableId": {
      "Type": "String",
      "Description": "Create forward entry in specified forward table."
    }
  },
  "ROSTemplateFormatVersion": "2015-09-01",
  "Outputs": {
    "ForwardEntryId": {
      "Description": "The id of created forward entry.",
      "Value": {
        "Fn::GetAtt": [
          "ForwardTableEntry",
          "ForwardEntryId"
        ]
      }
    }
  },
  "Resources": {
    "ForwardTableEntry": {
      "Type": "ALIYUN::ECS::ForwardEntry",
      "Properties": {
        "ExternalPort": {
          "Ref": "ExternalPort"
        },
        "ExternalIp": {
          "Ref": "ExternalIp"
        },
        "IpProtocol": {
          "Ref": "IpProtocol"
        },
        "PortBreak": {
          "Ref": "PortBreak"
        },
        "InternalPort": {
          "Ref": "InternalPort"
        },
        "ForwardEntryName": {
          "Ref": "ForwardEntryName"
        },
        "InternalIp": {
          "Ref": "InternalIp"
        },
        "ForwardTableId": {
          "Ref": "ForwardTableId"
        }
      }
    }
```

```
  }
}
```

`YAML` format

```
Parameters:
  ExternalPort:
    Type: String
    Description: 'Source port, now support [1-65535]|Any|x/y'
  ExternalIp:
    Type: String
    Description: 'Source IP, must belongs to bandwidth package internet IP'
  IpProtocol:
    Type: String
    Description: 'Supported protocol, Now support ''TCP|UDP|Any'''
    AllowedValues:
      - TCP
      - UDP
      - Any
  PortBreak:
    Type: Boolean
    Description: Specifies whether to remove limits on the port range.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  InternalPort:
    Type: String
    Description: 'Destination port, now support [1-65535]|Any|x/y'
  ForwardEntryName:
    Type: String
    Description: >-
      the name of the DNAT rule is 2-128 characters long and must start with a
      letter or Chinese, but cannot begin with HTTP:// or https://.
  InternalIp:
    Type: String
    Description: 'Destination IP, must belong to VPC private IP'
  ForwardTableId:
    Type: String
    Description: Create forward entry in specified forward table.
ROSTemplateFormatVersion: '2015-09-01'
Outputs:
  ForwardEntryId:
    Description: The id of created forward entry.
    Value:
      'Fn::GetAtt':
        - ForwardTableEntry
        - ForwardEntryId
Resources:
  ForwardTableEntry:
    Type: 'ALIYUN::ECS::ForwardEntry'
    Properties:
      ExternalPort:
        Ref: ExternalPort
      ExternalIp:
        Ref: ExternalIp
      IpProtocol:
        Ref: IpProtocol
      PortBreak:
        Ref: PortBreak
      InternalPort:
        Ref: InternalPort
      ForwardEntryName:
        Ref: ForwardEntryName
      InternalIp:
        Ref: InternalIp
      ForwardTableId:
        Ref: ForwardTableId
```

To view more examples, visit ForwardEntry.json and ForwardEntry.yml.

27.13. ALIYUN::ECS::HpcCluster

ALIYUN::ECS::HpcCluster is used to create an HPC cluster.

Syntax

```
{
  "Type": "ALIYUN::ECS::HpcCluster",
  "Properties": {
    "Name": String,
    "Description": String
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
Name	String	Yes	Yes	The name of the HPC cluster.	• The name must be 2 to 128 characters in length. • Must start with an uppercase or lowercase letter, and cannot start with `http://` or `https://` the beginning. • It can contain digits, underscores (_), and hyphens (-).
Description	String	No	Yes	The description of the HPC cluster.	It can contain 2 to 256 English letters or Chinese character. It cannot start with `http://` or `https://` the beginning.

Error code

Fn::GetAtt

- HpcClusterId: The ID of the cluster.
- Name: The Name of the cluster.

Examples

JSON format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "HpcCluster": {
      "Type": "ALIYUN::ECS::HpcCluster",
      "Properties": {
        "Name": {
          "Ref": "Name"
        },
        "Description": {
          "Ref": "Description"
        }
      }
    }
  },
  "Parameters": {
    "Name": {
      "Type": "String",
      "Description": "The name of the HPC cluster. The name must be 2 to 128 characters in length. It must\nstart with a letter
but cannot start with http:// or https://. It can contain letters, digits, colons (:), underscores (_), and hyphens (-)."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the HPC cluster. The description must be 2 to 256 characters in\nlength. It cannot sta
rt with http:// or https://. Default value: empty string."
    }
  },
  "Outputs": {
    "HpcClusterId": {
      "Description": "The ID of the HPC cluster.",
      "Value": {
        "Fn::GetAtt": [
          "HpcCluster",
          "HpcClusterId"
        ]
      }
    },
    "Name": {
      "Description": "The name of the HPC cluster.",
      "Value": {
        "Fn::GetAtt": [
          "HpcCluster",
          "Name"
        ]
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  HpcCluster:
    Type: 'ALIYUN::ECS::HpcCluster'
    Properties:
      Name:
        Ref: Name
      Description:
        Ref: Description
Parameters:
  Name:
    Type: String
    Description: >-
      The name of the HPC cluster. The name must be 2 to 128 characters in
      length. It must
      start with a letter but cannot start with http:// or https://. It can
      contain letters,
      digits, colons (:), underscores (_), and hyphens (-).
  Description:
    Type: String
    Description: >-
      The description of the HPC cluster. The description must be 2 to 256
      characters in
      length. It cannot start with http:// or https://. Default value: empty
      string.
Outputs:
  HpcClusterId:
    Description: The ID of the HPC cluster.
    Value:
      'Fn::GetAtt':
        -HpcCluster
        -HpcClusterId
  Name:
    Description: The name of the HPC cluster.
    Value:
      'Fn::GetAtt':
        -HpcCluster
        -Name
```

27.14. ALIYUN::ECS::InstanceClone

ALIYUN::ECS::InstanceClone is used to clone an Elastic Compute Service (ECS) instance.

Syntax

```
{
  "Type": "ALIYUN::ECS::InstanceClone",
  "Properties": {
    "DeletionProtection": Boolean,
    "DiskMappings": List,
    "LoadBalancerIdToAttach": String,
    "Description": String,
    "BackendServerWeight": Integer,
    "Tags": List,
    "SecurityGroupId": String,
    "RamRoleName": String,
    "ImageId": String,
    "ResourceGroupId": String,
    "SpotPriceLimit": String,
    "InstanceChargeType": String,
    "SourceInstanceId": String,
    "Period": Number,
    "SpotStrategy": String,
    "Password": String,
    "InstanceName": String,
    "InternetMaxBandwidthIn": Integer,
    "ZoneId": String,
    "KeyPairName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	No	The ID of the resource group to which the ECS instance belongs.	None
SourceInstanceId	String	Yes	No	The ID of the source ECS instance.	The clone operation clones the source ECS instance, including its instance type, image, bandwidth billing method, bandwidth limit, and network type. If the source ECS instance belongs to multiple security groups, the created instances are added only to the first security group.
BackendServerWeight	Integer	No	No	The weight that is assigned to the ECS instance in the Server Load Balancer (SLB) instance.	Valid values: 0 to 100. Default value: 100.
LoadBalancerIdToAttach	String	No	No	The ID of the SLB instance to which the created ECS instance is to be attached.	None
Description	String	No	No	The description of the created ECS instance.	The description can be up to 256 characters in length.
ImageId	String	No	Yes	The ID of the image that is used to start the created ECS instance. You can use a public image, a custom image, or an Alibaba Cloud Marketplace image.	You can specify a partial public image ID instead of the complete ID. Examples: • If you enter ubuntu, the system matches it with the following ID: ubuntu16_0402_64_20G_alibase_20170818.vhd. • If you enter ubuntu_14, the system matches it with the following ID: ubuntu_14_0405_64_20G_alibase_20170824.vhd. • If you enter ubuntu*14*32, the system matches it with the following ID: ubuntu_14_0405_32_40G_alibase_20170711.vhd. • If you enter ubuntu_16_0402_32, the system matches it with the following ID: ubuntu_16_0402_32_40G_alibase_20170711.vhd.
SecurityGroupId	String	No	No	The ID of the security group to which the created ECS instance belongs.	None
InstanceName	String	No	No	The name of the created ECS instance.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.

Property	Type	Required	Editable	Description	Constraint
Password	String	No	No	The password that is used to log on to the created ECS instance.	The password must be 8 to 30 characters in length The password must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `( ) ' ~ ! @ # $ % ^ & * - + = | { } [ ] : ; ' < > , . ? /` . If you set this property in the API request, you must use HTTPS to secure the API and protect your password.
DiskMappings	List	No	No	The data disks to be attached to the created ECS instance.	You can attach up to 16 data disks. For more information, see DiskMappings properties.
Tags	List	No	Yes	The tags of the created ECS instance.	You can specify up to 20 tags in the `[{"Key":"tagKey","Value":"tagValue"},{"Key":"tagKey2","Value":"tagValue2"}]` format. For more information, see Tags properties.
ZoneId	String	No	No	The zone ID of the created ECS instance.	None
InstanceChargeType	String	No	No	The billing method of the created ECS instance.	Default value: Postpaid. Valid values: • Prepaid Note If you set this property to Prepaid, make sure that you have sufficient balance in your account. Otherwise, the instance fails to be created. • Postpaid
Period	Number	No	No	The billing cycle of the created ECS instance.	Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Unit: months. This property is required if you set the InstanceChargeType property to Prepaid. This property is optional if you set the InstanceChargeType property to Postpaid.
KeyPairName	String	No	Yes	The name of the key pair that is used to connect to the created ECS instance.	For Windows instances, this property is empty by default. For Linux instances, the Password property still takes effect even if you set this property. However, logon by password is disabled, and the value of this property is used by default.
RamRoleName	String	No	No	The RAM role name for the created ECS instance.	For more information, see CreateRole and ListRoles.

Property	Type	Required	Editable	Description	Constraint
SpotPriceLimit	String	No	No	The maximum hourly price of the created ECS instance.	This property takes effect only if you set the SpotStrategy property to SpotWithPriceLimit. Up to three decimal places are allowed.
SpotStrategy	String	No	No	The bidding policy for pay-as-you-go instances.	This property takes effect only if you set the InstanceChargeType property to Postpaid. Default value: NoSpot. Valid values: • NoSpot: applies to regular pay-as-you-go instances. • SpotWithPriceLimit: applies to preemptible instances with a maximum hourly price. • SpotAsPriceGo: applies to pay-as-you-go instances priced at the market price at the time of purchase.
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth from the Internet.	Valid values: 1 to 200. Unit: Mbit/s.
DeletionProtection	Boolean	No	No	The deletion protection property of the created ECS instance. This property specifies whether the instance can be released by using the ECS console or by calling the DeleteInstance operation.	Default value: false. Valid values: • true • false

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
    "SnapshotId": String,
    "PerformanceLevel": String,
    "Size": String
  }
]
```

DiskMappings properties

Property	Type	Required	Editable	Description	Constraint
Size	String	Yes	No	The size of the data disk.	Valid values: 20 to 500. Unit: GB.

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The category of the data disk.	Valid values: • cloud: basic disk • cloud_ssd: standard SSD • cloud_essd: enhanced SSD (ESSD) • cloud_efficiency: ultra disk • ephemeral_ssd: local SSD For I/O optimized instances, the default value is cloud_efficiency. For non-I/O optimized instances, the default value is cloud.
DiskName	String	No	No	The name of the data disk.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
PerformanceLevel	String	No	No	The performance level of the ESSD that is used as the system disk.	Default value: PL1. Valid values: • PL1: A single ESSD delivers up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS. For more information about performance levels of ESSDs, see ESSDs.
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. By default, this property is empty.
Device	String	No	No	The mount target of the data disk.	This property will be removed. We recommend that you use other properties to ensure future compatibility.
SnapshotId	String	No	No	The ID of the snapshot that is used to create the data disk.	None

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- InstanceId: the ID of the instance. The instance ID is a globally unique identifier (GUID) generated by the system for the instance.
- PrivateIp: the private IP address of the VPC-type instance. This property takes effect only if you set the NetworkType property to VPC.
- InnerIp: the private IP address of the classic network-type instance. This property takes effect only if you set the NetworkType property to Classic.
- PublicIp: the list of public IP addresses of the classic network-type instance. This property takes effect only if you set the NetworkType property to Classic.
- ZoneId: the zone ID of the instance.
- HostName: the hostname of the instance.
- PrimaryNetworkInterfaceId: the ID of the primary elastic network interface (ENI).
- SecurityGroupIds: the IDs of security groups to which the created instance belongs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "BackendServerWeight": {
      "Type": "Number",
      "Description": "The weight of backend server of load balancer. From 0 to 100, 0 means offline. Default is 100.",
      "MinValue": 0,
      "MaxValue": 100,
      "Default": 100
    },
    "KeyPairName": {
      "Type": "String",
      "Description": "SSH key pair name."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the instance, [2, 256] characters. Do not fill or empty, the default is empty."
    },
    "DiskMappings": {
      "Type": "Json",
      "Description": "Disk mappings to attach to instance. Max support 16 disks.\nIf the image contains a data disk, you can sp
ecify other parameters of the data disk via the same value of parameter \"Device\". If parameter \"Category\" is not specified,
it will be cloud_efficiency instead of \"Category\" of data disk in the image.",
      "MaxLength": 16
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The ID of the zone to which the instance belongs. For more information, \ncall the DescribeZones operatio
n to query the most recent zone list. \nDefault value is empty, which means random selection."
    },
    "InstanceChargeType": {
      "Type": "String",
      "Description": "Instance Charge type, allowed value: Prepaid and Postpaid. If specified Prepaid, please ensure you have s
ufficient balance in your account. Or instance creation will be failure. Default value is Postpaid.",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Security group to create ecs instance. For classic instance need the security group not belong to VPC, fo
r VPC instance, please make sure the security group belong to specified VPC."
```

```
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. Unit is month, it could be from 1 to 9 or 12, 24, 36, 48, 60. Default value is 1.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36,
        48,
        60
      ],
      "Default": 1
    },
    "DeletionProtection": {
      "Type": "Boolean",
      "Description": "Whether an instance can be released manually through the console or API, deletion protection only support
postPaid instance ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "SourceInstanceId": {
      "Type": "String",
      "Description": "Source ecs instance used to copy properties to clone new ecs instance. It will copy the InstanceType, Ima
geId, InternetChargeType, InternetMaxBandwidthIn, InternetMaxBandwidthOut and the system disk and data disk configurations. If
the instance network is VPC, it will also clone the relative properties. If specified instance with more than one security grou
p, it will use the first security group to create instance. you can also specify the SecurityGroupId to override it."
    },
    "LoadBalancerIdToAttach": {
      "Type": "String",
      "Description": "After the instance is created. Automatic attach it to the load balancer."
    },
    "InstanceName": {
      "Type": "String",
      "Description": "Display name of the instance, [2, 128] English or Chinese characters, must start with a letter or Chinese
in size, can contain numbers, '_' or '.', '-'"
    },
    "RamRoleName": {
      "Type": "String",
      "Description": "Instance RAM role name. The name is provided and maintained by Resource Access Management (RAM) and can b
e queried using ListRoles. For more information, see RAM API CreateRole and ListRoles."
    },
    "InternetMaxBandwidthIn": {
      "Type": "Number",
      "Description": "Max internet out band width setting, unit in Mbps(Mega bit per second). The range is [1,200], default is
200 Mbps.",
      "MinValue": 1,
      "MaxValue": 200,
      "Default": 200
    },
    "ImageId": {
      "Type": "String",
      "Description": "Image ID to create ecs instance."
    },
    "SpotPriceLimit": {
      "Type": "String",
      "Description": "The hourly price threshold of a instance, and it takes effect only when parameter InstanceChargeType is P
ostPaid. Three decimals is allowed at most. "
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
```

```
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "SpotStrategy": {
      "Type": "String",
      "Description": "The spot strategy of a Pay-As-You-Go instance, and it takes effect only when parameter InstanceChargeType
is PostPaid. Value range: \"NoSpot: A regular Pay-As-You-Go instance\", \"SpotWithPriceLimit: A price threshold for a spot inst
ance, \"\"SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance. \"Default value: NoSpot.",
      "AllowedValues": [
        "NoSpot",
        "SpotWithPriceLimit",
        "SpotAsPriceGo"
      ]
    },
    "Password": {
      "Type": "String",
      "Description": "Password of created ecs instance. Must contain at least 3 types of special character, lower character, up
per character, number."
    }
  },
  "Resources": {
    "InstanceClone": {
      "Type": "ALIYUN::ECS::InstanceClone",
      "Properties": {
        "BackendServerWeight": {
          "Ref": "BackendServerWeight"
        },
        "KeyPairName": {
          "Ref": "KeyPairName"
        },
        "Description": {
          "Ref": "Description"
        },
        "DiskMappings": {
          "Ref": "DiskMappings"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "Period": {
          "Ref": "Period"
        },
        "DeletionProtection": {
          "Ref": "DeletionProtection"
        },
        "SourceInstanceId": {
          "Ref": "SourceInstanceId"
        },
        "LoadBalancerIdToAttach": {
          "Ref": "LoadBalancerIdToAttach"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "RamRoleName": {
          "Ref": "RamRoleName"
        },
        "InternetMaxBandwidthIn": {
          "Ref": "InternetMaxBandwidthIn"
        },
        "ImageId": {
          "Ref": "ImageId"
        },
        "SpotPriceLimit": {
          "Ref": "SpotPriceLimit"
```

```
        },
        "Tags": {
          "Ref": "Tags"
        },
        "SpotStrategy": {
          "Ref": "SpotStrategy"
        },
        "Password": {
          "Ref": "Password"
        }
      }
    }
  },
  "Outputs": {
    "PrimaryNetworkInterfaceId": {
      "Description": "Primary network interface ID of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "PrimaryNetworkInterfaceId"
        ]
      }
    },
    "InnerIp": {
      "Description": "Inner IP address of the specified instance. Only for classical instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "InnerIp"
        ]
      }
    },
    "ZoneId": {
      "Description": "Zone ID of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "ZoneId"
        ]
      }
    },
    "PrivateIp": {
      "Description": "Private IP address of created ecs instance. Only for VPC instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "PrivateIp"
        ]
      }
    },
    "InstanceId": {
      "Description": "The instance ID of created ecs instance",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "InstanceId"
        ]
      }
    },
    "PublicIp": {
      "Description": "Public IP address of created ecs instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "PublicIp"
        ]
      }
    },
    "SecurityGroupIds": {
      "Description": "Security group ID list of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "SecurityGroupIds"
```

```
        ]
      }
    },
    "HostName": {
      "Description": "Host name of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceClone",
          "HostName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  BackendServerWeight:
    Default: 100
    Description: The weight of backend server of load balancer. From 0 to 100, 0 means
      offline. Default is 100.
    MaxValue: 100
    MinValue: 0
    Type: Number
  DeletionProtection:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Whether an instance can be released manually through the console
      or API, deletion protection only support postPaid instance '
    Type: Boolean
  Description:
    Description: Description of the instance, [2, 256] characters. Do not fill or
      empty, the default is empty.
    Type: String
  DiskMappings:
    Description: 'Disk mappings to attach to instance. Max support 16 disks.
      If the image contains a data disk, you can specify other parameters of the data
      disk via the same value of parameter "Device". If parameter "Category" is not
      specified, it will be cloud_efficiency instead of "Category" of data disk in
      the image.'
    MaxLength: 16
    Type: Json
  ImageId:
    Description: Image ID to create ecs instance.
    Type: String
  InstanceChargeType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: PostPaid
    Description: 'Instance Charge type, allowed value: Prepaid and Postpaid. If specified
      Prepaid, please ensure you have sufficient balance in your account. Or instance
      creation will be failure. Default value is Postpaid.'
    Type: String
  InstanceName:
    Description: Display name of the instance, [2, 128] English or Chinese characters,
      must start with a letter or Chinese in size, can contain numbers, '_' or '.',
      '-'
    Type: String
  InternetMaxBandwidthIn:
    Default: 200
    Description: Max internet out band width setting, unit in Mbps(Mega bit per second).
      The range is [1,200], default is 200 Mbps.
```

```
    MaxValue: 200
    MinValue: 1
    Type: Number
  KeyPairName:
    Description: SSH key pair name.
    Type: String
  LoadBalancerIdToAttach:
    Description: After the instance is created. Automatic attach it to the load balancer.
    Type: String
  Password:
    Description: Password of created ecs instance. Must contain at least 3 types of
      special character, lower character, upper character, number.
    Type: String
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    - 48
    - 60
    Default: 1
    Description: Prepaid time period. Unit is month, it could be from 1 to 9 or 12,
      24, 36, 48, 60. Default value is 1.
    Type: Number
  RamRoleName:
    Description: Instance RAM role name. The name is provided and maintained by Resource
      Access Management (RAM) and can be queried using ListRoles. For more information,
      see RAM API CreateRole and ListRoles.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  SecurityGroupId:
    Description: Security group to create ecs instance. For classic instance need
      the security group not belong to VPC, for VPC instance, please make sure the
      security group belong to specified VPC.
    Type: String
  SourceInstanceId:
    Description: Source ecs instance used to copy properties to clone new ecs instance.
      It will copy the InstanceType, ImageId, InternetChargeType, InternetMaxBandwidthIn,
      InternetMaxBandwidthOut and the system disk and data disk configurations. If
      the instance network is VPC, it will also clone the relative properties. If
      specified instance with more than one security group, it will use the first
      security group to create instance. you can also specify the SecurityGroupId
      to override it.
    Type: String
  SpotPriceLimit:
    Description: 'The hourly price threshold of a instance, and it takes effect only
      when parameter InstanceChargeType is PostPaid. Three decimals is allowed at
      most. '
    Type: String
  SpotStrategy:
    AllowedValues:
    - NoSpot
    - SpotWithPriceLimit
    - SpotAsPriceGo
    Description: 'The spot strategy of a Pay-As-You-Go instance, and it takes effect
      only when parameter InstanceChargeType is PostPaid. Value range: "NoSpot: A
      regular Pay-As-You-Go instance", "SpotWithPriceLimit: A price threshold for
      a spot instance, ""SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go
      instance. "Default value: NoSpot.'
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
```

```
    MaxLength: 20
    Type: Json
  ZoneId:
    Description: "The ID of the zone to which the instance belongs. For more information,\
      \ \ncall the DescribeZones operation to query the most recent zone list. \n\
      Default value is empty, which means random selection."
    Type: String
Resources:
  InstanceClone:
    Properties:
      BackendServerWeight:
        Ref: BackendServerWeight
      DeletionProtection:
        Ref: DeletionProtection
      Description:
        Ref: Description
      DiskMappings:
        Ref: DiskMappings
      ImageId:
        Ref: ImageId
      InstanceChargeType:
        Ref: InstanceChargeType
      InstanceName:
        Ref: InstanceName
      InternetMaxBandwidthIn:
        Ref: InternetMaxBandwidthIn
      KeyPairName:
        Ref: KeyPairName
      LoadBalancerIdToAttach:
        Ref: LoadBalancerIdToAttach
      Password:
        Ref: Password
      Period:
        Ref: Period
      RamRoleName:
        Ref: RamRoleName
      ResourceGroupId:
        Ref: ResourceGroupId
      SecurityGroupId:
        Ref: SecurityGroupId
      SourceInstanceId:
        Ref: SourceInstanceId
      SpotPriceLimit:
        Ref: SpotPriceLimit
      SpotStrategy:
        Ref: SpotStrategy
      Tags:
        Ref: Tags
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::ECS::InstanceClone
Outputs:
  HostName:
    Description: Host name of created instance.
    Value:
      Fn::GetAtt:
      - InstanceClone
      - HostName
  InnerIp:
    Description: Inner IP address of the specified instance. Only for classical instance.
    Value:
      Fn::GetAtt:
      - InstanceClone
      - InnerIp
  InstanceId:
    Description: The instance ID of created ecs instance
    Value:
      Fn::GetAtt:
      - InstanceClone
      - InstanceId
  PrimaryNetworkInterfaceId:
    Description: Primary network interface ID of created instance.
    Value:
      Fn::GetAtt:
```

```
      - InstanceClone
      - PrimaryNetworkInterfaceId
  PrivateIp:
    Description: Private IP address of created ecs instance. Only for VPC instance.
    Value:
      Fn::GetAtt:
      - InstanceClone
      - PrivateIp
  PublicIp:
    Description: Public IP address of created ecs instance.
    Value:
      Fn::GetAtt:
      - InstanceClone
      - PublicIp
  SecurityGroupIds:
    Description: Security group ID list of created instance.
    Value:
      Fn::GetAtt:
      - InstanceClone
      - SecurityGroupIds
  ZoneId:
    Description: Zone ID of created instance.
    Value:
      Fn::GetAtt:
      - InstanceClone
      - ZoneId
```

To view more examples, visit InstanceClone.json and InstanceClone.yml.

27.15. ALIYUN::ECS::InstanceGroup

ALIYUN::ECS::InstanceGroup is used to create a group of ECS instances that have the same configurations.

Syntax

```
{
  "Type": "ALIYUN::ECS::InstanceGroup",
  "Properties": {
    "DedicatedHostId": String,
    "ResourceGroupId": String,
    "SystemDiskDescription": String,
    "InstanceChargeType": String,
    "RamRoleName": String,
    "SystemDiskPerformanceLevel": String,
    "ImageId": String,
    "SystemDiskDiskName": String,
    "Tags": List,
    "HostName": String,
    "LaunchTemplateName": String,
    "VSwitchId": String,
    "Period": Number,
    "LaunchTemplateId": String,
    "DeletionProtection": "Boolean",
    "SecurityGroupIds": List,
    "SecurityEnhancementStrategy": String,
    "InternetChargeType": String,
    "InstanceName": String,
    "DeploymentSetId": String,
    "InternetMaxBandwidthOut": Integer,
    "VpcId": String,
    "LaunchTemplateVersion": String,
    "PeriodUnit": String,
    "AutoReleaseTime": String,
    "PrivateIpAddress": String,
    "Description": String,
    "DiskMappings": List,
    "SystemDiskSize": Number,
    "UserData": String,
    "AutoRenew": String,
    "Ipv6Addresses": List,
    "MaxAmount": Integer,
    "SystemDiskAutoSnapshotPolicyId": String,
    "Ipv6AddressCount": Integer,
    "NetworkType": String,
    "SpotPriceLimit": String,
    "InstanceType": String,
    "AllocatePublicIP": "Boolean",
    "SpotStrategy": String,
    "Password": String,
    "PasswordInherit": Boolean,
    "AutoRenewPeriod": Number,
    "KeyPairName": String,
    "IoOptimized": String,
    "ZoneId": String,
    "HpcClusterId": String,
    "SecurityGroupId": String,
    "SystemDiskCategory": String,
    "EniMappings": List,
    "InternetMaxBandwidthIn": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the instance belongs.	None
HpcClusterId	String	No	Yes	The ID of the HPC cluster to which the instance belongs.	Updates of this parameter take effect only for added ECS instances.

Property	Type	Required	Editable	Description	Constraint
MaxAmount	Integer	Yes	Yes	The maximum number of instances that can be created at a time.	Valid values: 1 to 1000. **Note** If you increase or decrease the MaxAmount value when you update the stack that references this resource type, the number of ECS instances is increased or decreased based on the new value. For example, if you increase the MaxAmount value from 2 to 5, three ECS instances are added.
Description	String	No	Yes	The description of the instance.	The description can be up to 256 characters in length. **Note** Updates of this parameter take effect only for added ECS instances.
InstanceType	String	Yes	Yes	The instance type.	For more information, see Instance family.
ImageId	String	Yes	Yes	The ID of the image that is used to start the instance. You can use a public image, a custom image, or an Alibaba Cloud Marketplace image.	You can specify a partial public image ID instead of providing the complete ID. Examples: • If you enter ubuntu, the system matches it with the following ID: ubuntu_16_0402_64_20G_alibase_20170818.vhd • If you enter ubuntu1432, the system matches it with the following ID: ubuntu_14_0405_32_40G_alibase_20170711.vhd For more information, see Request parameters.
SecurityGroupId	String	No	No	The ID of the security group to which the instance belongs. Instances in the same security group can communicate with each other.	You cannot specify both the SecurityGroupId and SecurityGroupIds parameters.
SecurityGroupIds	List	No	No	The IDs of multiple security groups to which the instance belongs.	You cannot specify both the SecurityGroupId and SecurityGroupIds parameters. For more information, see Security group limits.
SecurityEnhancementStrategy	String	No	No	Specifies whether to enable security hardening.	Valid values: • Active: enables security hardening. This value is applicable only to public images. • Deactive: disables security hardening. This value is applicable to all image types.

Property	Type	Required	Editable	Description	Constraint
InstanceName	String	No	No	The name of the instance.	The name can be up to 128 characters in length. It can contain letters, digits, underscores (_), periods (.), and hyphens (-). The instance name must be in the `name_prefix[begin_number,bits]name_suffix` format. For more information, see Request parameters .
Password	String	No	Yes	The password that is used to log on to the instance.	The password must be 8 to 30 characters in length. The password must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `: ( ) ` ~ ! @ # $ % ^ & * - + = | { } [ ] : ; ' < > , . ? /`. If you specify this parameter in the API request, use HTTPS to secure the API and protect your password.
PasswordInherit	Boolean	No	No	Specifies whether to use the preset password of the image.	Valid values: • true: uses the preset password. • false: does not use the preset password. **Note** If you set the PasswordInherit parameter to true, leave the Password parameter empty and make sure that the selected image has a preset password.
HostName	String	No	No	The hostname of the instance.	The hostname must be at least 2 characters in length. It cannot contain consecutive periods (.) or hyphens (-). It cannot start or end with a period (.) or a hyphen (-). For more information, see Request parameters.
AllocatePublicIP	Boolean	No	No	Specifies whether to assign a public IP address to the instance.	If the InternetMaxBandwidthOut parameter is set to 0, no public IP address is assigned. Default value: true. Valid values: • true • false
AutoReleaseTime	String	No	No	The time scheduled for the instance to be automatically released.	Specify the time in the ISO 8601 standard in the `"yyyy-MM-ddTHH:mm:ssZ"` format. The time must be in UTC. The release time of the instance cannot be more than three years.

Property	Type	Required	Editable	Description	Constraint
PrivateIpAddress	String	No	No	The private IP address of the instance.	To assign a private IP address to an instance of the Virtual Private Cloud (VPC) type, make sure that the IP address is an idle IP address within the CIDR block of the vSwitch. **Note** If you specify the PrivateIpAddress parameter, the MaxAmount parameter must be set to 1.
DiskMappings	List	No	Yes	The list of one or more data disks to be attached to the instance.	A maximum of 16 data disks can be specified. If you modify the value of this parameter, existing instances are not affected. The modified value takes effect for new instances. For more information, see DiskMappings properties. **Note** Updates of this parameter take effect only for added ECS instances.
InternetChargeType	String	No	No	The billing method for Internet usage.	Default value: PayByTraffic: Valid values: • PayByBandwidth • PayByTraffic
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound public bandwidth.	Valid values: 1 to 100. Unit: Mbit/s. Default value: 100
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound public bandwidth.	Valid values: 0 to 100. Unit: Mbit/s. Default value: 0.
IoOptimized	String	No	No	Specifies whether the instance is I/O optimized.	Default value: optimized. Valid values: • none: The instance is not I/O optimized. • optimized: The instance is I/O optimized.
SystemDiskCategory	String	No	Yes	The category of the system disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: standard SSD • cloud_essd: enhanced SSD (ESSD) • ephemeral_ssd: local SSD **Note** Updates of this parameter take effect only for added ECS instances.
SystemDiskDescription	String	No	Yes	The description of the system disk.	Updates of this parameter take effect only for added ECS instances.

Property	Type	Required	Editable	Description	Constraint
SystemDiskDiskName	String	No	Yes	The name of the system disk.	Updates of this parameter take effect only for added ECS instances.
SystemDiskSize	Number	No	Yes	The size of the system disk.	Valid values: 40 to 500. Unit: GB If a custom image is used to create a system disk, make sure that the size of the system disk is larger than that of the custom image.
Tags	List	No	Yes	The custom tags of the instance.	A maximum of 20 tags can be specified in the `[{"Key":"tagKey","Value":"tagValue"},{"Key":"tagKey2","Value":"tagValue2"}]` format. For more information, see Tags properties.
UserData	String	No	Yes	The user data that you provide when you create the instance.	The user data can be up to 16 KB in size. You do not need to convert the data into Base64-encoded strings. If the data contains special characters, add a backslash (\) immediately before each special character.
ZoneId	String	No	No	The zone ID of the instance.	None
VpcId	String	No	No	The VPC ID of the instance.	None
VSwitchId	String	No	No	The vSwitch ID of the instance.	None
KeyPairName	String	No	Yes	The name of the key pair that is used to connect to the instance.	For a Windows instance, this parameter is ignored and is empty by default. For a Linux instance, the Password parameter still takes effect if this parameter is specified. However, logon by password is disabled and the KeyPairName value is used. **Note** Updates of this parameter take effect only for added ECS instances.
RamRoleName	String	No	Yes	The name of the Resource Access Management (RAM) role of the instance.	You can call the ListRoles operation to query the RAM role name. For more information, see CreateRole and ListRoles.
SpotPriceLimit	String	No	No	The maximum hourly price of the instance.	This parameter supports up to 3 decimal places. This parameter takes effect only when the SpotStrategy parameter is set to SpotWithPriceLimit.

Property	Type	Required	Editable	Description	Constraint
SpotStrategy	String	No	No	The bidding policy for pay-as-you-go instances.	This parameter takes effect only when the InstanceChargeType parameter is set to PostPaid. Default value: NoSpot. Valid values: • NoSpot: applies to regular pay-as-you-go instances. • SpotWithPriceLimit: applies to preemptible instances with a maximum hourly price. • SpotAsPriceGo: applies to preemptible instances that are billed at the market price at the time of purchase.
DedicatedHostId	String	No	No	The ID of the dedicated host.	None
LaunchTemplateName	String	No	Yes	The name of the launch template.	None
PeriodUnit	String	No	Yes	The unit of the subscription period.	Default value: Month. Valid values: • Week • Month Note Updates of this parameter take effect only for added ECS instances.
AutoRenewPeriod	Number	No	Yes	The auto-renewal period for the instance.	This parameter is required when the AutoRenew parameter is set to True. Default value: 1. Valid values: • 1 • 2 • 3 • 6 • 12 Note Updates of this parameter take effect only for added ECS instances.
AutoRenew	String	No	Yes	Specifies whether to enable auto-renewal for the instance.	This parameter takes effect only when the InstanceChargeType parameter is set to PrePaid. Default value: False. Valid values: • True: enables auto-renewal. • False: disables auto-renewal. Note Updates of this parameter take effect only for added ECS instances.

Property	Type	Required	Editable	Description	Constraint
InstanceChargeType	String	No	Yes	The billing method of the instance.	Default value: PostPaid. Valid values: • PrePaid: subscription Note If this parameter is set to PrePaid, you must make sure that your payment account has sufficient balance or credit. Otherwise, an InvalidPayMethod error is returned. • PostPaid: pay-as-you-go Note Updates of this parameter take effect only for added ECS instances.
EniMappings	List	No	Yes	The elastic network interface (ENI) to be bound to the instance.	Only one ENI can be bound to each instance. For more information, see EniMappings properties.
LaunchTemplateId	String	No	Yes	The ID of the launch template.	None
LaunchTemplateVersion	String	No	Yes	The version of the launch template.	If you do not specify a version, the default version is used.
Period	Number	No	Yes	The subscription period of the instance.	This parameter takes effect and is required when the InstanceChargeType parameter is set to PrePaid. If the DedicatedHostId parameter is specified, the value of this parameter must be within the subscription period of the dedicated host. • Valid values when PeriodUnit is set to Week: 1, 2, 3, and 4. • Valid values when PeriodUnit is set to Month: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, 48, and 60. Note Updates of this parameter take effect only for added ECS instances.
NetworkType	String	No	No	The network type of the instance.	Default value: classic. Valid values: • vpc • classic
DeletionProtection	Boolean	No	No	The deletion protection property of the instance. It specifies whether to release the instance by using the ECS console or by calling the DeleteInstance operation.	Valid values: • true • false
DeploymentSetId	String	No	Yes	The ID of the deployment set.	Updates of this parameter take effect only for added ECS instances.

Property	Type	Required	Editable	Description	Constraint
Ipv6AddressCount	Integer	No	Yes	The number of randomly generated IPv6 addresses that are assigned to the ENI.	You cannot specify both the Ipv6Addresses and Ipv6AddressCount parameters. **Note** Updates of this parameter take effect only for added ECS instances.
Ipv6Addresses	List	No	Yes	The IPv6 address assigned to the ENI.	Only one IPv6 address can be specified. Modification of this parameter does not affect existing instances. You cannot specify both the Ipv6Addresses and Ipv6AddressCount parameters. **Note** Updates of this parameter take effect only for added ECS instances.
SystemDiskAutoSnapshotPolicyId	String	No	Yes	The ID of the automatic snapshot policy for the system disk.	None
SystemDiskPerformanceLevel	String	No	No	The performance level of the ESSD that is used as the system disk.	Default value: PL1. Valid values: • PL1: A single ESSD delivers up to 50,000 random read/write IOPS. • PL2: A single ESSD delivers up to 100,000 random read/write IOPS. • PL3: A single ESSD delivers up to 1,000,000 random read/write IOPS. For more information about the performance levels of ESSDs, see ESSDs.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String,
    "Encrypted": String,
    "KMSKeyId": String,
    "PerformanceLevel": String,
    "AutoSnapshotPolicyId": String
  }
]
```

DiskMappings properties

Property	Type	Required	Editable	Description	Constraint
Size	String	Yes	No	The size of the data disk.	Unit: GB.

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The category of the data disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: ESSD • ephemeral_ssd: local SSD For I/O optimized instances, the default value is cloud_efficiency. For non-I/O optimized instances, the default value is cloud.
DiskName	String	No	No	The name of the data disk.	The name must be 2 to 128 characters in length. It must start with a letter and cannot start with `http://` or `https://`. The description can contain letters, digits, underscores (_), colons (:), and hyphens (-).
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. It cannot start with `http://` or `https://`.
Device	String	No	No	The name of the device on which the data disk is mounted.	**Note** This parameter will be removed in the future. We recommend that you use other parameters to ensure future compatibility.
SnapshotId	String	No	No	The ID of the snapshot.	None
Encrypted	String	No	No	Specifies whether to encrypt the data disk.	Default value: false. Valid values: • true • false
KMSKeyId	String	No	No	The ID of the Key Management Service (KMS) key corresponding to the data disk.	None
AutoSnapshotPolicyId	String	No	No	The ID of the automatic snapshot policy.	None
PerformanceLevel	String	No	No	The performance level of the ESSD that is used as the data disk.	Default value: PL1. Valid values: • PL1: A single ESSD delivers up to 50,000 random read/write IOPS. • PL2: A single ESSD delivers up to 100,000 random read/write IOPS. • PL3: A single ESSD delivers up to 1,000,000 random read/write IOPS. For more information about the performance levels of ESSDs, see ESSDs.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value can be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

EniMappings syntax

```
"EniMappings": [
  {
    "SecurityGroupId": String,
    "VSwitchId": String,
    "Description": String,
    "NetworkInterfaceName": String,
    "PrimaryIpAddress": String
  }
]
```

EniMappings properties

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	Yes	Yes	The ID of the security group.	The security group and the instance must be in the same VPC.
VSwitchId	String	Yes	No	The ID of the vSwitch	None
Description	String	No	Yes	The description of the ENI.	The description must be 2 to 256 characters in length. It cannot start with `http://` or `https://`.
NetworkInterface Name	String	No	Yes	The name of the ENI.	The name must be 2 to 128 characters in length. The name must start with a letter and cannot start with `http://` or `https://`. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).
PrimaryIpAddress	String	No	No	The primary private IP address of the ENI.	The IP address must be an idle IP address within the CIDR block of the vSwitch. If this parameter is not specified, an idle IP address within the CIDR block of the vSwitch is assigned at random.

Response parameters

Fn::GetAtt

- InstanceIds: the IDs of one or more instances. An instance ID is a system-generated globally unique identifier (GUID) for an instance.
- PrivateIps: the private IP addresses of one or more VPC-type instances. This parameter takes effect only when the NetworkType parameter is set to vpc. Example: `["172.16.XX.XX", "172.16.XX.XX", …"172.16.XX.XX"]`. In this example, the list is a JSON array that can contain up to 100 IP addresses separated with commas (,).
- InnerIps: the private IP addresses of one or more classic network-type instances. This parameter takes effect only when the NetworkType parameter is set to classic. Example: `["10.1.XX.XX", "10.1.XX.XX", … "10.1.XX.XX"]`. In this example, the list is a JSON array that can contain up to 100 IP addresses separated with commas (,).
- PublicIps: the public IP addresses of one or more classic network-type instances. This parameter takes effect only when the NetworkType parameter is set to classic. Example: `["42.1.XX.XX", "42.1.XX.XX", … "42.1.XX.XX"]`. In this example, the list is a JSON array that can contain up to 100 IP addresses separated with commas (,).
- HostNames: the list of hostnames of all instances.
- OrderId: the order IDs of one or more instances.
- ZoneIds: the zone IDs of one or more instances.
- Ipv6AddressIds: the IDs of IPv6 addresses of one or more instances. Note that the IPv6 address IDs are displayed in a list with two layers. If an

instance does not have any IPv6 address, the element at the corresponding position in the list is empty. If none of the instances have any IP address, null is returned.

- Ipv6Addresses: the IPv6 addresses of one or more instances. Note that the IPv6 addresses are displayed in a list with two layers. If an instance does not have any IPv6 address, the element at the corresponding position in the list is empty. If none of the instances have any IP address, null is returned.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DedicatedHostId": {
      "Type": "String",
      "Description": "which dedicated host will be deployed"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "SystemDiskDescription": {
      "Type": "String",
      "Description": "Description of created system disk. Old instances will not be changed."
    },
    "InstanceChargeType": {
      "Type": "String",
      "Description": "Instance Charge type, allowed value: Prepaid and Postpaid. If specified Prepaid, please ensure you have s
ufficient balance in your account. Or instance creation will be failure. Default value is Postpaid.Old instances will not be ch
anged.",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "RamRoleName": {
      "Type": "String",
      "Description": "Instance RAM role name. The name is provided and maintained by Resource Access Management (RAM) and can b
e queried using ListRoles. For more information, see RAM API CreateRole and ListRoles."
    },
    "SystemDiskPerformanceLevel": {
      "Type": "String",
      "Description": "The performance level of the enhanced SSD used as the system disk. Default value: PL1. Valid values:PL0:
A single enhanced SSD delivers up to 10,000 random read/write IOPS.PL1: A single enhanced SSD delivers up to 50,000 random read
/write IOPS.PL2: A single enhanced SSD delivers up to 100,000 random read/write IOPS.PL3: A single enhanced SSD delivers up to
1,000,000 random read/write IOPS."
    },
    "ImageId": {
      "Type": "String",
      "Description": "Image ID to create ecs instance."
    },
    "SystemDiskDiskName": {
      "Type": "String",
      "Description": "Name of created system disk. Old instances will not be changed."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "HostName": {
      "Type": "String",
      "Description": "Host name of created ecs instance. at least 2 characters, and '.' '-' Is not the first and last character
s as hostname, not continuous use. Windows platform can be up to 15 characters, allowing letters (without limiting case), numbe
rs and '-', and does not support the number of points, not all is digital ('.').Other (Linux, etc.) platform up to 30 character
s, allowing support number multiple points for the period between the points, each permit letters (without limiting case), numb
```

```
ers and '-' components. \nSupport to use the regular expression to set the different instance name for each ECS instance. HostN
ame could be specified as 'name_prefix[begin_number,bits]name_suffix', such as 'host[123,4]tail'. If you creates 3 instances wi
th hostname 'host[123,4]tail', all the host names of instances are host0123tail, host0124tail, host0125tail. The 'name_prefix[b
egin_number,bits]name_suffix' should follow those rules: \n1. 'name_prefix' is required. \n2. 'name_suffix' is optional. \n3. T
he name regular expression can't include any spaces. \n4. The 'bits' must be in range [1, 6]. \n5. The 'begin_number' must be i
n range [0, 999999]. \n6. You could only specify 'begin_number'. The 'bits' will be set as 6 by default. \n7. You also could on
ly specify the [] or [,]. The 'begin_number' will be set as 0 by default, the 'bits' will be set as 6 by default. \n8. If the b
its of 'begin_number' is less than the 'bits' you specified, like [1234,1], the 'bits' will be set as 6 by default. \nThe host
name is specified by regular expression works after restart instance manually."
    },
    "LaunchTemplateName": {
      "Type": "String",
      "Description": "Name of launch template. Launch template id or name must be specified to use launch template"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch Id to create ecs instance."
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. Unit is month, it could be from 1 to 9 or 12, 24, 36, 48, 60. Default value is 1. Ol
d instances will not be changed.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36,
        48,
        60
      ],
      "Default": 1
    },
    "LaunchTemplateId": {
      "Type": "String",
      "Description": "ID of launch template. Launch template id or name must be specified to use launch template"
    },
    "DeletionProtection": {
      "Type": "Boolean",
      "Description": "Whether an instance can be released manually through the console or API, deletion protection only support
postPaid instance",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "SecurityGroupIds": {
      "Type": "CommaDelimitedList",
      "Description": "The IDs of security groups N to which the instance belongs. The valid values of N are based on the maximu
m number of security groups to which an instance can belong. For more information, see Security group limits.Note: You cannot s
pecify both SecurityGroupId and SecurityGroupIds at the same time."
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "Instance internet access charge type.Support 'PayByBandwidth' and 'PayByTraffic' only. Default is PayByTr
affic",
      "AllowedValues": [
        "paybytraffic",
        "PayByTraffic",
        "paybybandwidth",
        "PayByBandwidth"
      ],
      "Default": "PayByTraffic"
    },
    "InstanceName": {
```

```
      "Type": "String",
      "Description": "Display name of the instance, [2, 128] English or Chinese characters, must start with a letter or Chinese
in size, can contain numbers, '_' or '.', '-'. \nSupport to use the regular expression to set the different instance name for e
ach ECS instance. InstanceName could be specified as 'name_prefix[begin_number,bits]name_suffix', such as 'testinstance[123,4]t
ail'. If you creates 3 instances with the instance name 'testinstance[123,4]tail', all the instances' names are testinstance012
3tail, testinstance0124tail, testinstance0125tail. \nThe 'name_prefix[begin_number,bits]name_suffix' should follow those rules:
\n1. 'name_prefix' is required. \n2. 'name_suffix' is optional. \n3. The name regular expression can't include any spaces. \n4.
The 'bits' must be in range [1, 6]. \n5. The 'begin_number' must be in range [0, 999999]. \n6. You could only specify 'begin_nu
mber'. The 'bits' will be set as 6 by default. \n7. You also could only specify the [] or [,]. The 'begin_number' will be set a
s 0 by default, the 'bits' will be set as 6 by default. \n8. If the bits of 'begin_number' is less than the 'bits' you specifie
d, like [1234,1], the 'bits' will be set as 6 by default."
    },
    "DeploymentSetId": {
      "Type": "String",
      "Description": "Deployment set ID. The change of the property does not affect existing instances."
    },
    "InternetMaxBandwidthOut": {
      "Type": "Number",
      "Description": "Set internet output bandwidth of instance. Unit is Mbps(Mega bit per second). Range is [0,200]. Default i
s 1.While the property is not 0, public ip will be assigned for instance.",
      "MinValue": 0,
      "MaxValue": 200,
      "Default": 1
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create ecs instance."
    },
    "LaunchTemplateVersion": {
      "Type": "String",
      "Description": "Version of launch template. Default version is used if version is not specified.",
      "AllowedPattern": "^[1-9]\\d*$"
    },
    "SecurityEnhancementStrategy": {
      "Type": "String",
      "Description": "",
      "AllowedValues": [
        "Active",
        "Deactive"
      ]
    },
    "AutoReleaseTime": {
      "Type": "String",
      "Description": "Auto release time for created instance, Follow ISO8601 standard using UTC time. format is 'yyyy-MM-ddTHH:
mm:ssZ'. Not bigger than 3 years from this day onwards"
    },
    "PeriodUnit": {
      "Type": "String",
      "Description": "Unit of prepaid time period, it could be Week/Month. Default value is Month. Old instances will not be ch
anged.",
      "AllowedValues": [
        "Week",
        "Month"
      ],
      "Default": "Month"
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "Private IP for the instance created. Only works for VPC instance and cannot duplicated with existing inst
ance."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the instance, [2, 256] characters. Do not fill or empty, the default is empty. Old instanc
es will not be changed."
    },
    "DiskMappings": {
      "Type": "Json",
      "Description": "Disk mappings to attach to instance. Max support 16 disks.\nIf the image contains a data disk, you can sp
ecify other parameters of the data disk via the same value of parameter \"Device\". If parameter \"Category\" is not specified,
it will be cloud_efficiency instead of \"Category\" of data disk in the image. Old instances will not be changed.",
      "MaxLength": 16
    },
    "UserData": {
```

```
      "Type": "String",
      "Description": "User data to pass to instance. [1, 16KB] characters. User data should not be base64 encoded. If you want
to pass base64 encoded string to the property, use function Fn::Base64Decode to decode the base64 string first."
    },
    "SystemDiskSize": {
      "Type": "Number",
      "Description": "Disk size of the system disk, range from 20 to 500 GB. If you specify with your own image, make sure the
system disk size bigger than image size. ",
      "MinValue": 20
    },
    "AutoRenew": {
      "Type": "String",
      "Description": "Whether renew the fee automatically? When the parameter InstanceChargeType is PrePaid, it will take effec
t. Range of value:True: automatic renewal.False: no automatic renewal. Default value is False.Old instances will not be changed
.",
      "AllowedValues": [
        "True",
        "False"
      ],
      "Default": "False"
    },
    "Ipv6Addresses": {
      "Type": "CommaDelimitedList",
      "Description": "Specify one or more IPv6 addresses for the elastic NIC. Currently, the maximum list size is 1. Example va
lue: 2001:db8:1234:1a00::*** .\nNote You cannot specify the parameters Ipv6Addresses and Ipv6AddressCount at the same time.\nTh
e change of the property does not affect existing instances.",
      "MaxLength": 1
    },
    "MaxAmount": {
      "Type": "Number",
      "Description": "Max number of instances to create, should be bigger than 'MinAmount' and smaller than 1000.",
      "MinValue": 0,
      "MaxValue": 1000
    },
    "SystemDiskAutoSnapshotPolicyId": {
      "Type": "String",
      "Description": "Auto snapshot policy ID."
    },
    "NetworkType": {
      "Type": "String",
      "Description": "Instance network type. Support 'vpc' and 'classic', for compatible reason, default is 'classic'. If vswit
ch id and vpc id is specified, the property will be forced to be set to 'vpc'  ",
      "AllowedValues": [
        "vpc",
        "classic"
      ],
      "Default": "classic"
    },
    "Ipv6AddressCount": {
      "Type": "Number",
      "Description": "Specifies the number of randomly generated IPv6 addresses for the elastic NIC.\nNote You cannot specify t
he parameters Ipv6Addresses and Ipv6AddressCount at the same time.\nThe change of the property does not affect existing instanc
es.",
      "MinValue": 0
    },
    "SpotPriceLimit": {
      "Type": "String",
      "Description": "The hourly price threshold of a instance, and it takes effect only when parameter InstanceChargeType is P
ostPaid. Three decimals is allowed at most. "
    },
    "InstanceType": {
      "Type": "String",
      "Description": "Ecs instance supported instance type, make sure it should be correct."
    },
    "AllocatePublicIP": {
      "Type": "Boolean",
      "Description": "The public ip for ecs instance, if properties is true, will allocate public ip. If property InternetMaxBa
ndwidthOut set to 0, it will not assign public ip.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": true
```

```
      "Default": true
    },
    "SpotStrategy": {
      "Type": "String",
      "Description": "The spot strategy of a Pay-As-You-Go instance, and it takes effect only when parameter InstanceChargeType
is PostPaid. Value range: \"NoSpot: A regular Pay-As-You-Go instance\", \"SpotWithPriceLimit: A price threshold for a spot inst
ance, \"\"SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance. \"Default value: NoSpot.",
      "AllowedValues": [
        "NoSpot",
        "SpotWithPriceLimit",
        "SpotAsPriceGo"
      ]
    },
    "PasswordInherit": {
      "Type": "Boolean",
      "Description": "Specifies whether to use the password preset in the image. To use the PasswordInherit parameter, the Pass
word parameter must be empty and you must make sure that the selected image has a password configured.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Password": {
      "Type": "String",
      "Description": "Password of created ecs instance. Must contain at least 3 types of special character, lower character, up
per character, number."
    },
    "AutoRenewPeriod": {
      "Type": "Number",
      "Description": "The time period of auto renew. When the parameter InstanceChargeType is PrePaid, it will take effect. It
could be 1, 2, 3, 6, 12. Default value is 1.Old instances will not be changed.",
      "AllowedValues": [
        1,
        2,
        3,
        6,
        12
      ],
      "Default": 1
    },
    "KeyPairName": {
      "Type": "String",
      "Description": "SSH key pair name. Old instances will not be changed."
    },
    "IoOptimized": {
      "Type": "String",
      "Description": "The 'optimized' instance can provide better IO performance. Support 'none' and 'optimized' only, default
is 'optimized'.",
      "AllowedValues": [
        "none",
        "optimized"
      ],
      "Default": "optimized"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The ID of the zone to which the instance belongs. For more information, \ncall the DescribeZones operatio
n to query the most recent zone list. \nDefault value is empty, which means random selection."
    },
    "HpcClusterId": {
      "Type": "String",
      "Description": "The HPC cluster ID to which the instance belongs. The change of the property does not affect existing ins
tances."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Security group to create ecs instance. For classic instance need the security group not belong to VPC, fo
r VPC instance, please make sure the security group belong to specified VPC."
    },
    "SystemDiskCategory": {
      "Type": "String",
      "Description": "Category of system disk. Default is cloud_efficiency. support cloud|cloud_efficiency|cloud_ssd|cloud_essd
|ephemeral_ssd.Old instances will not be changed.",
```

```
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd",
        "cloud_essd",
        "ephemeral_ssd"
      ],
      "Default": "cloud_efficiency"
    },
    "EniMappings": {
      "Type": "Json",
      "Description": "NetworkInterface to attach to instance. Max support 1 ENI.",
      "MaxLength": 1
    },
    "InternetMaxBandwidthIn": {
      "Type": "Number",
      "Description": "Max internet out band width setting, unit in Mbps(Mega bit per second). The range is [1,200], default is
200 Mbps.",
      "MinValue": 1,
      "MaxValue": 200,
      "Default": 200
    }
  },
  "Resources": {
    "InstanceGroup": {
      "Type": "ALIYUN::ECS::InstanceGroup",
      "Properties": {
        "DedicatedHostId": {
          "Ref": "DedicatedHostId"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "SystemDiskDescription": {
          "Ref": "SystemDiskDescription"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "RamRoleName": {
          "Ref": "RamRoleName"
        },
        "SystemDiskPerformanceLevel": {
          "Ref": "SystemDiskPerformanceLevel"
        },
        "ImageId": {
          "Ref": "ImageId"
        },
        "SystemDiskDiskName": {
          "Ref": "SystemDiskDiskName"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "HostName": {
          "Ref": "HostName"
        },
        "LaunchTemplateName": {
          "Ref": "LaunchTemplateName"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Period": {
          "Ref": "Period"
        },
        "LaunchTemplateId": {
          "Ref": "LaunchTemplateId"
        },
        "DeletionProtection": {
          "Ref": "DeletionProtection"
        },
        "SecurityGroupIds": {
          "Ref": "SecurityGroupIds"
```

```
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "DeploymentSetId": {
          "Ref": "DeploymentSetId"
        },
        "InternetMaxBandwidthOut": {
          "Ref": "InternetMaxBandwidthOut"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "LaunchTemplateVersion": {
          "Ref": "LaunchTemplateVersion"
        },
        "SecurityEnhancementStrategy": {
          "Ref": "SecurityEnhancementStrategy"
        },
        "AutoReleaseTime": {
          "Ref": "AutoReleaseTime"
        },
        "PeriodUnit": {
          "Ref": "PeriodUnit"
        },
        "PrivateIpAddress": {
          "Ref": "PrivateIpAddress"
        },
        "Description": {
          "Ref": "Description"
        },
        "DiskMappings": {
          "Ref": "DiskMappings"
        },
        "UserData": {
          "Ref": "UserData"
        },
        "SystemDiskSize": {
          "Ref": "SystemDiskSize"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "Ipv6Addresses": {
          "Ref": "Ipv6Addresses"
        },
        "MaxAmount": {
          "Ref": "MaxAmount"
        },
        "SystemDiskAutoSnapshotPolicyId": {
          "Ref": "SystemDiskAutoSnapshotPolicyId"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "Ipv6AddressCount": {
          "Ref": "Ipv6AddressCount"
        },
        "SpotPriceLimit": {
          "Ref": "SpotPriceLimit"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "AllocatePublicIP": {
          "Ref": "AllocatePublicIP"
        },
        "SpotStrategy": {
          "Ref": "SpotStrategy"
        },
        "PasswordInherit": {
```

```
          "Ref": "PasswordInherit"
        },
        "Password": {
          "Ref": "Password"
        },
        "AutoRenewPeriod": {
          "Ref": "AutoRenewPeriod"
        },
        "KeyPairName": {
          "Ref": "KeyPairName"
        },
        "IoOptimized": {
          "Ref": "IoOptimized"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "HpcClusterId": {
          "Ref": "HpcClusterId"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "SystemDiskCategory": {
          "Ref": "SystemDiskCategory"
        },
        "EniMappings": {
          "Ref": "EniMappings"
        },
        "InternetMaxBandwidthIn": {
          "Ref": "InternetMaxBandwidthIn"
        }
      }
    }
  },
  "Outputs": {
    "PublicIps": {
      "Description": "Public IP address list of created ecs instances.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "PublicIps"
        ]
      }
    },
    "PrivateIps": {
      "Description": "Private IP address list of created ecs instances. Only for VPC instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "PrivateIps"
        ]
      }
    },
    "HostNames": {
      "Description": "Host names of created instances.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "HostNames"
        ]
      }
    },
    "InnerIps": {
      "Description": "Inner IP address list of the specified instances. Only for classical instances.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "InnerIps"
        ]
      }
    },
    "Ipv6AddressIds": {
      "Description": "IPv6 address IDs list of created ecs instances. Note: The return type is a two-tier list.If the instance
```

```
does not have any IPv6 address, the element at the corresponding position in the list is null. If all instances does not have a
ny IPv address, will return null.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "Ipv6AddressIds"
        ]
      }
    },
    "ZoneIds": {
      "Description": "Zone id of created instances.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "ZoneIds"
        ]
      }
    },
    "Ipv6Addresses": {
      "Description": "IPv6 addresses list of created ecs instances. Note: The return type is a two-tier list. If the instance d
oes not have any IPv6 address, the element at the corresponding position in the list is null. If all instances does not have an
y IPv address, will return null.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "Ipv6Addresses"
        ]
      }
    },
    "OrderId": {
      "Description": "The order id list of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "OrderId"
        ]
      }
    },
    "InstanceIds": {
      "Description": "The instance id list of created ecs instances",
      "Value": {
        "Fn::GetAtt": [
          "InstanceGroup",
          "InstanceIds"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AllocatePublicIP:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: true
    Description: The public ip for ecs instance, if properties is true, will allocate
      public ip. If property InternetMaxBandwidthOut set to 0, it will not assign
      public ip.
    Type: Boolean
  AutoReleaseTime:
    Description: Auto release time for created instance, Follow ISO8601 standard using
      UTC time. format is 'yyyy-MM-ddTHH:mm:ssZ'. Not bigger than 3 years from this
      day onwards
    Type: String
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'False'
```

```
    Default: 'False'
    Description: 'Whether renew the fee automatically? When the parameter InstanceChargeType
      is PrePaid, it will take effect. Range of value:True: automatic renewal.False:
      no automatic renewal. Default value is False. Old instances will not be changed.'
    Type: String
  AutoRenewPeriod:
    AllowedValues:
    - 1
    - 2
    - 3
    - 6
    - 12
    Default: 1
    Description: The time period of auto renew. When the parameter InstanceChargeType
      is PrePaid, it will take effect. It could be 1, 2, 3, 6, 12. Default value is
      1. Old instances will not be changed.
    Type: Number
  DedicatedHostId:
    Description: which dedicated host will be deployed
    Type: String
  DeletionProtection:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Whether an instance can be released manually through the console
      or API, deletion protection only support postPaid instance
    Type: Boolean
  DeploymentSetId:
    Description: Deployment set ID. The change of the property does not affect existing
      instances.
    Type: String
  Description:
    Description: Description of the instance, [2, 256] characters. Do not fill or
      empty, the default is empty. Old instances will not be changed.
    Type: String
  DiskMappings:
    Description: 'Disk mappings to attach to instance. Max support 16 disks.
      If the image contains a data disk, you can specify other parameters of the data
      disk via the same value of parameter "Device". If parameter "Category" is not
      specified, it will be cloud_efficiency instead of "Category" of data disk in
      the image. Old instances will not be changed.'
    MaxLength: 16
    Type: Json
  EniMappings:
    Description: NetworkInterface to attach to instance. Max support 1 ENI.
    MaxLength: 1
    Type: Json
  HostName:
    Description: "Host name of created ecs instance. at least 2 characters, and '.'\
      \ '-' Is not the first and last characters as hostname, not continuous use.\
      \ Windows platform can be up to 15 characters, allowing letters (without limiting\
      \ case), numbers and '-', and does not support the number of points, not all\
      \ is digital ('.').Other (Linux, etc.) platform up to 30 characters, allowing\
      \ support number multiple points for the period between the points, each permit\
      \ letters (without limiting case), numbers and '-' components. \nSupport to\
      \ use the regular expression to set the different instance name for each ECS\
      \ instance. HostName could be specified as 'name_prefix[begin_number,bits]name_suffix',\
      \ such as 'host[123,4]tail'. If you creates 3 instances with hostname 'host[123,4]tail',\
      \ all the host names of instances are host0123tail, host0124tail, host0125tail.\
      \ The 'name_prefix[begin_number,bits]name_suffix' should follow those rules:\
      \ \n1. 'name_prefix' is required. \n2. 'name_suffix' is optional. \n3. The name\
      \ regular expression can't include any spaces. \n4. The 'bits' must be in range\
      \ [1, 6]. \n5. The 'begin_number' must be in range [0, 999999]. \n6. You could\
      \ only specify 'begin_number'. The 'bits' will be set as 6 by default. \n7.\
      \ You also could only specify the [] or [,]. The 'begin_number' will be set\
      \ as 0 by default, the 'bits' will be set as 6 by default. \n8. If the bits\
      \ of 'begin_number' is less than the 'bits' you specified, like [1234,1], the\
      \ 'bits' will be set as 6 by default. \nThe host name is specified by regular\
      \ expression works after restart instance manually."
    Type: String
  HpcClusterId:
    Description: The HPC cluster ID to which the instance belongs. The change of the
```

```
    property does not affect existing instances.
  Type: String
ImageId:
  Description: Image ID to create ecs instance.
  Type: String
InstanceChargeType:
  AllowedValues:
  - Subscription
  - PrePaid
  - PrePay
  - Prepaid
  - PayAsYouGo
  - PostPaid
  - PayOnDemand
  - Postpaid
  Default: PostPaid
  Description: 'Instance Charge type, allowed value: Prepaid and Postpaid. If specified
    Prepaid, please ensure you have sufficient balance in your account. Or instance
    creation will be failure. Default value is Postpaid. Old instances will not be
    changed.'
  Type: String
InstanceName:
  Description: "Display name of the instance, [2, 128] English or Chinese characters,\
    \ must start with a letter or Chinese in size, can contain numbers, '_' or '.',\
    \ '-'. \nSupport to use the regular expression to set the different instance\
    \ name for each ECS instance. InstanceName could be specified as 'name_prefix[begin_number,bits]name_suffix',\
    \ such as 'testinstance[123,4]tail'. If you creates 3 instances with the instance\
    \ name 'testinstance[123,4]tail', all the instances' names are testinstance0123tail,\
    \ testinstance0124tail, testinstance0125tail. \nThe 'name_prefix[begin_number,bits]name_suffix'\
    \ should follow those rules: \n1. 'name_prefix' is required. \n2. 'name_suffix'\
    \ is optional. \n3. The name regular expression can't include any spaces. \n\
    4. The 'bits' must be in range [1, 6]. \n5. The 'begin_number' must be in range\
    \ [0, 999999]. \n6. You could only specify 'begin_number'. The 'bits' will be\
    \ set as 6 by default. \n7. You also could only specify the [] or [,]. The 'begin_number'\
    \ will be set as 0 by default, the 'bits' will be set as 6 by default. \n8.\
    \ If the bits of 'begin_number' is less than the 'bits' you specified, like\
    \ [1234,1], the 'bits' will be set as 6 by default."
  Type: String
InstanceType:
  Description: Ecs instance supported instance type, make sure it should be correct.
  Type: String
InternetChargeType:
  AllowedValues:
  - paybytraffic
  - PayByTraffic
  - paybybandwidth
  - PayByBandwidth
  Default: PayByTraffic
  Description: Instance internet access charge type. Support 'PayByBandwidth' and
    'PayByTraffic' only. Default is PayByTraffic
  Type: String
InternetMaxBandwidthIn:
  Default: 200
  Description: Max internet out band width setting, unit in Mbps(Mega bit per second).
    The range is [1,200], default is 200 Mbps.
  MaxValue: 200
  MinValue: 1
  Type: Number
InternetMaxBandwidthOut:
  Default: 1
  Description: Set internet output bandwidth of instance. Unit is Mbps(Mega bit
    per second). Range is [0,200]. Default is 1.While the property is not 0, public
    ip will be assigned for instance.
  MaxValue: 200
  MinValue: 0
  Type: Number
IoOptimized:
  AllowedValues:
  - none
  - optimized
  Default: optimized
  Description: The 'optimized' instance can provide better IO performance. Support
    'none' and 'optimized' only, default is 'optimized'.
  Type: String
```

```
  Ipv6AddressCount:
    Description: 'Specifies the number of randomly generated IPv6 addresses for the
      elastic NIC.
      Note You cannot specify the parameters Ipv6Addresses and Ipv6AddressCount at
      the same time.
      The change of the property does not affect existing instances.'
    MinValue: 0
    Type: Number
  Ipv6Addresses:
    Description: 'Specify one or more IPv6 addresses for the elastic NIC. Currently,
      the maximum list size is 1. Example value: 2001:db8:1234:1a00::*** .
      Note You cannot specify the parameters Ipv6Addresses and Ipv6AddressCount at
      the same time.
      The change of the property does not affect existing instances.'
    MaxLength: 1
    Type: CommaDelimitedList
  KeyPairName:
    Description: SSH key pair name. Old instances will not be changed.
    Type: String
  LaunchTemplateId:
    Description: ID of launch template. Launch template id or name must be specified
      to use launch template
    Type: String
  LaunchTemplateName:
    Description: Name of launch template. Launch template id or name must be specified
      to use launch template
    Type: String
  LaunchTemplateVersion:
    AllowedPattern: ^[1-9]\d*$
    Description: Version of launch template. Default version is used if version is
      not specified.
    Type: String
  MaxAmount:
    Description: Max number of instances to create, should be bigger than 'MinAmount'
      and smaller than 1000.
    MaxValue: 1000
    MinValue: 0
    Type: Number
  NetworkType:
    AllowedValues:
    - vpc
    - classic
    Default: classic
    Description: 'Instance network type. Support ''vpc'' and ''classic'', for compatible
      reason, default is ''classic''. If vswitch id and vpc id is specified, the property
      will be forced to be set to ''vpc''  '
    Type: String
  Password:
    Description: Password of created ecs instance. Must contain at least 3 types of
      special character, lower character, upper character, number.
    Type: String
  PasswordInherit:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Specifies whether to use the password preset in the image. To use
      the PasswordInherit parameter, the Password parameter must be empty and you
      must make sure that the selected image has a password configured.
    Type: Boolean
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
```

```
    - 36
    - 48
    - 60
    Default: 1
    Description: Prepaid time period. Unit is month, it could be from 1 to 9 or 12,
      24, 36, 48, 60. Default value is 1.Old instances will not be changed.
    Type: Number
  PeriodUnit:
    AllowedValues:
    - Week
    - Month
    Default: Month
    Description: Unit of prepaid time period, it could be Week/Month. Default value
      is Month. Old instances will not be changed.
    Type: String
  PrivateIpAddress:
    Description: Private IP for the instance created. Only works for VPC instance
      and cannot duplicated with existing instance.
    Type: String
  RamRoleName:
    Description: Instance RAM role name. The name is provided and maintained by Resource
      Access Management (RAM) and can be queried using ListRoles. For more information,
      see RAM API CreateRole and ListRoles.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  SecurityEnhancementStrategy:
    AllowedValues:
    - Active
    - Deactive
    Description: ''
    Type: String
  SecurityGroupId:
    Description: Security group to create ecs instance. For classic instance need
      the security group not belong to VPC, for VPC instance, please make sure the
      security group belong to specified VPC.
    Type: String
  SecurityGroupIds:
    Description: 'The IDs of security groups N to which the instance belongs. The
      valid values of N are based on the maximum number of security groups to which
      an instance can belong. For more information, see Security group limits.Note:
      You cannot specify both SecurityGroupId and SecurityGroupIds at the same time.'
    Type: CommaDelimitedList
  SpotPriceLimit:
    Description: 'The hourly price threshold of a instance, and it takes effect only
      when parameter InstanceChargeType is PostPaid. Three decimals is allowed at
      most. '
    Type: String
  SpotStrategy:
    AllowedValues:
    - NoSpot
    - SpotWithPriceLimit
    - SpotAsPriceGo
    Description: 'The spot strategy of a Pay-As-You-Go instance, and it takes effect
      only when parameter InstanceChargeType is PostPaid. Value range: "NoSpot: A
      regular Pay-As-You-Go instance", "SpotWithPriceLimit: A price threshold for
      a spot instance, ""SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go
      instance. "Default value: NoSpot.'
    Type: String
  SystemDiskAutoSnapshotPolicyId:
    Description: Auto snapshot policy ID.
    Type: String
  SystemDiskCategory:
    AllowedValues:
    - cloud
    - cloud_efficiency
    - cloud_ssd
    - cloud_essd
    - ephemeral_ssd
    Default: cloud_efficiency
    Description: Category of system disk. Default is cloud_efficiency. support cloud|cloud_efficiency|cloud_ssd|cloud_essd|ephe
meral_ssd.Old
      instances will not be changed.
```

```
    Type: String
  SystemDiskDescription:
    Description: Description of created system disk. Old instances will not be changed.
    Type: String
  SystemDiskDiskName:
    Description: Name of created system disk. Old instances will not be changed.
    Type: String
  SystemDiskPerformanceLevel:
    Description: 'The performance level of the enhanced SSD used as the system disk.Default
      value: PL1. Valid values:PL0: A single enhanced SSD delivers up to 10,000 random
      read/write IOPS.PL1: A single enhanced SSD delivers up to 50,000 random read/write
      IOPS.PL2: A single enhanced SSD delivers up to 100,000 random read/write IOPS.PL3:
      A single enhanced SSD delivers up to 1,000,000 random read/write IOPS.'
    Type: String
  SystemDiskSize:
    Description: 'Disk size of the system disk, range from 20 to 500 GB. If you specify
      with your own image, make sure the system disk size bigger than image size. '
    MinValue: 20
    Type: Number
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  UserData:
    Description: User data to pass to instance. [1, 16KB] characters.User data should
      not be base64 encoded. If you want to pass base64 encoded string to the property,
      use function Fn::Base64Decode to decode the base64 string first.
    Type: String
  VSwitchId:
    Description: The vSwitch Id to create ecs instance.
    Type: String
  VpcId:
    Description: The VPC id to create ecs instance.
    Type: String
  ZoneId:
    Description: "The ID of the zone to which the instance belongs. For more information,\
      \ \ncall the DescribeZones operation to query the most recent zone list. \n\
      Default value is empty, which means random selection."
    Type: String
Resources:
  InstanceGroup:
    Properties:
      AllocatePublicIP:
        Ref: AllocatePublicIP
      AutoReleaseTime:
        Ref: AutoReleaseTime
      AutoRenew:
        Ref: AutoRenew
      AutoRenewPeriod:
        Ref: AutoRenewPeriod
      DedicatedHostId:
        Ref: DedicatedHostId
      DeletionProtection:
        Ref: DeletionProtection
      DeploymentSetId:
        Ref: DeploymentSetId
      Description:
        Ref: Description
      DiskMappings:
        Ref: DiskMappings
      EniMappings:
        Ref: EniMappings
      HostName:
        Ref: HostName
      HpcClusterId:
        Ref: HpcClusterId
      ImageId:
        Ref: ImageId
      InstanceChargeType:
        Ref: InstanceChargeType
      InstanceName:
        Ref: InstanceName
      InstanceType:
```

```
        Ref: InstanceType
      InternetChargeType:
        Ref: InternetChargeType
      InternetMaxBandwidthIn:
        Ref: InternetMaxBandwidthIn
      InternetMaxBandwidthOut:
        Ref: InternetMaxBandwidthOut
      IoOptimized:
        Ref: IoOptimized
      Ipv6AddressCount:
        Ref: Ipv6AddressCount
      Ipv6Addresses:
        Ref: Ipv6Addresses
      KeyPairName:
        Ref: KeyPairName
      LaunchTemplateId:
        Ref: LaunchTemplateId
      LaunchTemplateName:
        Ref: LaunchTemplateName
      LaunchTemplateVersion:
        Ref: LaunchTemplateVersion
      MaxAmount:
        Ref: MaxAmount
      NetworkType:
        Ref: NetworkType
      Password:
        Ref: Password
      PasswordInherit:
        Ref: PasswordInherit
      Period:
        Ref: Period
      PeriodUnit:
        Ref: PeriodUnit
      PrivateIpAddress:
        Ref: PrivateIpAddress
      RamRoleName:
        Ref: RamRoleName
      ResourceGroupId:
        Ref: ResourceGroupId
      SecurityEnhancementStrategy:
        Ref: SecurityEnhancementStrategy
      SecurityGroupId:
        Ref: SecurityGroupId
      SecurityGroupIds:
        Ref: SecurityGroupIds
      SpotPriceLimit:
        Ref: SpotPriceLimit
      SpotStrategy:
        Ref: SpotStrategy
      SystemDiskAutoSnapshotPolicyId:
        Ref: SystemDiskAutoSnapshotPolicyId
      SystemDiskCategory:
        Ref: SystemDiskCategory
      SystemDiskDescription:
        Ref: SystemDiskDescription
      SystemDiskDiskName:
        Ref: SystemDiskDiskName
      SystemDiskPerformanceLevel:
        Ref: SystemDiskPerformanceLevel
      SystemDiskSize:
        Ref: SystemDiskSize
      Tags:
        Ref: Tags
      UserData:
        Ref: UserData
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::ECS::InstanceGroup
Outputs:
  HostNames:
    Description: Host names of created instances
```

```
    Description: Host names of created instances.
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - HostNames
  InnerIps:
    Description: Inner IP address list of the specified instances. Only for classical
      instances.
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - InnerIps
  InstanceIds:
    Description: The instance id list of created ecs instances
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - InstanceIds
  Ipv6AddressIds:
    Description: 'IPv6 address IDs list of created ecs instances. Note: The return
      type is a two-tier list. If the instance does not have any IPv6 address, the
      element at the corresponding position in the list is null. If all instances
      does not have any IPv address, will return null.'
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - Ipv6AddressIds
  Ipv6Addresses:
    Description: 'IPv6 addresses list of created ecs instances. Note: The return type
      is a two-tier list. If the instance does not have any IPv6 address, the element
      at the corresponding position in the list is null. If all instances does not
      have any IPv address, will return null.'
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - Ipv6Addresses
  OrderId:
    Description: The order id list of created instance.
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - OrderId
  PrivateIps:
    Description: Private IP address list of created ecs instances. Only for VPC instance.
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - PrivateIps
  PublicIps:
    Description: Public IP address list of created ecs instances.
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - PublicIps
  ZoneIds:
    Description: Zone id of created instances.
    Value:
      Fn::GetAtt:
      - InstanceGroup
      - ZoneIds
```

For more examples, see InstanceGroup.json and InstanceGroup.yml. In the examples, the following resource types are involved: ALIYUN::ECS::InstanceGroup, ALIYUN::ECS::InstanceClone, ALIYUN::ECS::Command, and ALIYUN::ECS::Invocation.

27.16. ALIYUN::ECS::InstanceGroupClone

ALIYUN::ECS::InstanceGroupClone is used to clone an Elastic Compute Service (ECS) instance to generate one or more new instances.

Syntax

```
{
  "Type": "ALIYUN::ECS::InstanceGroupClone",
  "Properties": {
    "BackendServerWeight": Integer,
    "SystemDiskAutoSnapshotPolicyId": String,
    "DiskMappings": List,
    "Period": Number,
    "LaunchTemplateName": String,
    "RamRoleName": String,
    "ResourceGroupId": String,
    "KeyPairName": String,
    "SystemDiskDiskName": String,
    "PeriodUnit": String,
    "Description": String,
    "Tags": List,
    "AutoRenewPeriod": Number,
    "ImageId": String,
    "AutoRenew": String,
    "SpotStrategy": String,
    "SourceInstanceId": String,
    "EniMappings": List,
    "Password": String,
    "PasswordInherit": Boolean,
    "MaxAmount": Integer,
    "AutoReleaseTime": String,
    "SystemDiskCategory": String,
    "LoadBalancerIdToAttach": String,
    "LaunchTemplateId": String,
    "LaunchTemplateVersion": String,
    "ZoneId": String,
    "InternetMaxBandwidthOut": Integer,
    "InstanceName": String,
    "DeletionProtection": Boolean,
    "DeploymentSetId": String,
    "Ipv6AddressCount": Integer,
    "SecurityGroupId": String,
    "SecurityGroupIds": List,
    "SpotPriceLimit": String,
    "HpcClusterId": String,
    "SystemDiskDescription": String,
    "Ipv6Addresses": List,
    "SystemDiskProvisionedIops": Integer,
    "SystemDiskBurstingEnabled": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	No	The ID of the resource group to which the new ECS instance belongs.	None.
HpcClusterId	String	No	Yes	The ID of the Elastic High Performance Computing (E-HPC) cluster to which the new ECS instance belongs.	None.

Property	Type	Required	Editable	Description	Constraint
SourceInstanceId	String	Yes	No	The ID of the source ECS instance that you want to clone.	You can clone the information about the source ECS instance, including the instance type, image, bandwidth metering method, bandwidth limit, and network type. If the source ECS instance belongs to multiple security groups, the new instance is added to the first security group to which you add the source ECS instance.
MaxAmount	Integer	Yes	Yes	The number of new ECS instances that you can create at a time.	Valid values: 1 to 100.
BackendServerWeight	Integer	No	No	The weight that is assigned to the new ECS instance in the Server Load Balancer (SLB) instance.	Valid values: 0 to 100. Default value: 100.
LoadBalancerIdToAttach	String	No	No	The ID of the SLB instance to which you attach the new ECS instance.	None.
Description	String	No	Yes	The description of the new ECS instance.	The description can be up to 256 characters in length.
ImageId	String	No	Yes	The ID of the image that is used to start the new ECS instance. You can use a public image, custom image, or Alibaba Cloud Marketplace image.	When you specify a part of a public image ID, the system can match the complete ID of the public image. You do not need to specify the complete ID of the public image. Example: • If you specify ubuntu, the system matches the following complete image ID: ubuntu16_0402_64_20G_alibase_20170818.vhd. • If you specify ubuntu_14, the system matches the following complete image ID: ubuntu_14_0405_64_20G_alibase_20170824.vhd. • If you specify ubuntu*14*32, the system matches the following complete image ID: ubuntu_14_0405_32_40G_alibase_20170711.vhd. • If you enter ubuntu_16_0402_32, the system matches the following complete image ID: ubuntu_16_0402_32_40G_alibase_20170711.vhd.
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound public bandwidth of the new ECS instance.	Unit: Mbit/s. Valid values: • Valid values for the pay-by-bandwidth metering method: 0 to 200 • Valid values for the pay-by-data-transfer metering method: 1 to 200
SecurityGroupId	String	No	No	The ID of the security group to which the new ECS instance belongs.	You cannot specify the SecurityGroupId and SecurityGroupIds properties at the same time.

Property	Type	Required	Editable	Description	Constraint
SecurityGroupIds	List	No	No	The IDs of the security groups to which the new ECS instances belong.	For more information, see Security group limits You cannot specify the SecurityGroupId and SecurityGroupIds properties at the same time.
InstanceName	String	No	No	The name of the new ECS instance.	The name must be 128 characters in length, and can contain letters, digits, underscores (_), periods (.), and hyphens (-).
Password	String	No	Yes	The password that is used to log on to the new ECS instance.	The password must be 8 to 30 characters in length, and can contain letters, digits, and special characters. Special characters include: `( ) ` ~ ! @ # $ % ^ & * - + = | { } [ ] : ; ' < > , . ? / -` . If you specify this property, you must call the Resource Orchestration Service (ROS) API by using HTTPS to prevent the exposure of your password.
PasswordInherit	Boolean	No	No	Specifies whether to use the preset password of the image.	Valid values: • true: uses the preset password. • false: does not use the preset password. **Note** If you set this property to true, make sure that you leave the Password property empty and the image that you want to use has a preset password.
DiskMappings	List	No	Yes	The disks that you attach to the new ECS instance.	You can attach up to 16 disks. For more information, see DiskMappings properties.
Period	Number	No	Yes	The billing cycle of the new ECS instance.	Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Unit: month. This property is required if you set the InstanceChargeType property to PrePaid. This property is optional if you set the InstanceChargeType property to PostPaid.
Tags	List	No	Yes	The tags that you specify for the new ECS instance.	You can specify up to 20 tags in the following format: `[{"Key":"tagKey","Value":"tagValue"},{"Key":"tagKey2","Value":"tagValue2"}]` . For more information, see Tags properties.
ZoneId	String	No	No	The zone ID of the new ECS instance.	None.
KeyPairName	String	No	Yes	The name of the key pair that is used to connect to the new ECS instance.	For Windows ECS instance, you can ignore this property. The Password property takes effect for ECS instances even if you specify the KeyPairName property. For Linux ECS instances, password-based logon is disabled.

Property	Type	Required	Editable	Description	Constraint
RamRoleName	String	No	Yes	The name of the RAM role for the new ECS instance.	You can call the ListRoles operation to query the name of the RAM role. For more information, see CreateRole and ListRoles.
SpotPriceLimit	String	No	No	The maximum hourly price of the instance.	The value of this property can contain up to three decimal places. This property takes effect when you set the SpotStrategy property to SpotWithPriceLimit.
SpotStrategy	String	No	No	The bidding policy for a pay-as-you-go instance.	This property is required when you set the InstanceChargeType property to PostPaid. Default value: NoSpot. Valid values: • NoSpot: The instance is created as a regular pay-as-you-go instance. • SpotWithPriceLimit: The instance is created as a preemptible instance for which you specify the maximum hourly price. • SpotAsPriceGo: The instance is created as a preemptible instance whose price is based on the market price at the time of purchase. The market price can be equal to the price of a pay-as-you-go instance.
SystemDiskDiskName	String	No	Yes	The name of the system disk.	The name must be 2 to 128 characters in length, and can contain digits, colons (:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
PeriodUnit	String	No	Yes	The unit of the billing cycle for the new ECS instance.	Default value: Month. Valid values: • Week If you set this property to Week, valid values of the Period property are 1, 2, 3, and 4, and valid values of the AutoRenewPeriod property are 1, 2, and 3. • Month If you set this property to Month, valid values of the Period property are 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, 48, and 60, and valid values of the AutoRenewPeriod property are 1, 2, 3, 6, and 12.
AutoRenewPeriod	Number	No	Yes	The auto-renewal period for the new ECS instance.	This property is required when you set the AutoRenew property to True. Default value: 1. Valid values: • 1 • 2 • 3 • 6 • 12
AutoRenew	String	No	Yes	Specifies whether to enable auto-renewal for the new ECS instance.	Default value: False. Valid values: • True: enables auto-renewal. • False: disables auto-renewal. This property is required when you set the InstanceChargeType property to PrePaid.

Property	Type	Required	Editable	Description	Constraint
EniMappings	List	No	Yes	The elastic network interfaces (ENIs) that you attach to the new ECS instance.	You can attach only one ENI to each ECS instance. For more information, see EniMappings properties
AutoReleaseTime	String	No	No	The time at which the system automatically releases the ECS instance.	Specify the time in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be within three years from the time at which the instance is created.
SystemDiskCategory	String	No	Yes	The category of the system disk.	Default value: cloud_efficiency. Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: enhanced SSD (ESSD)
SystemDiskProvisionedIops	Integer	No	Yes	The IOPS that is preset in the system disk.	None.
SystemDiskBurstingEnabled	Boolean	No	Yes	Specifies whether to enable the burst mode for the system disk.	Default value: false. Valid values: • true: enables the burst mode. • false: disables the burst mode.
LaunchTemplateName	String	No	Yes	The name of the launch template.	None.
LaunchTemplateVersion	String	No	Yes	The version of the launch template.	If you do not specify a version, the default version is used.
LaunchTemplateId	String	No	Yes	The ID of the launch template.	None.
SystemDiskDescription	String	No	Yes	The description of the system disk.	None.
DeletionProtection	Boolean	No	No	Specifies whether to enable deletion protection to allow you to release the instance by using the ECS console or by calling the DeleteInstance operation.	Valid values: • true: enables deletion protection. • false: does not enable deletion protection.
DeploymentSetId	String	No	Yes	The ID of the deployment set.	None.
Ipv6AddressCount	Integer	No	Yes	The number of randomly generated IPv6 addresses that are assigned to the ENI.	You cannot specify the Ipv6Addresses and Ipv6AddressCount properties at the same time.
Ipv6Addresses	List	No	Yes	The one or more IPv6 addresses that are assigned to the ENI.	You can specify only one IPv6 address. If you modify this property, existing instances are not affected. You cannot specify the Ipv6Addresses and Ipv6AddressCount properties at the same time.

Property	Type	Required	Editable	Description	Constraint
SystemDiskAutoSnapshotPolicyId	String	No	Yes	The ID of the automatic snapshot policy for the system disk.	None.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Encrypted": String,
    "KMSKeyId": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String,
    "PerformanceLevel": String,
    "AutoSnapshotPolicyId": String,
    "ProvisionedIops": Integer,
    "BurstingEnabled": Boolean
  }
]
```

DiskMappings properties

Property	Type	Required	Editable	Description	Constraint
Size	String	Yes	No	The size of the data disk.	Unit: GB.
Category	String	No	No	The category of the data disk.	Default value: cloud. Valid values: • cloud: basic disk • cloud_ssd: SSD • cloud_essd: ESSD • cloud_efficiency: ultra disk
DiskName	String	No	No	The name of the data disk.	The name can be up to 128 characters in length. The name can contain letters, digits, underscores (_), periods (.), and hyphens (-).
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
Device	String	No	No	The device name of the data disk that is attached to the new ECS instance.	Example: `/dev/xvd[a-z]`.
SnapshotId	String	No	No	The ID of the snapshot.	None.
Encrypted	String	No	No	Specifies whether to encrypt the data disk.	Default value: false. Valid values: • true: encrypts the data disk. • false: does not encrypt the data disk.
KMSKeyId	String	No	No	The ID of the Key Management Service (KMS) key that is used for the data disk.	None.

Property	Type	Required	Editable	Description	Constraint
AutoSnapshotPolicyId	String	No	No	The ID of the automatic snapshot policy.	None.
PerformanceLevel	String	No	No	The performance level (PL) of the ESSD that is used as the system disk.	Default value: PL1. Valid values: • PL0: An ESSD delivers up to 10,000 random read/write IOPS. • PL1: An ESSD delivers up to 50,000 random read/write IOPS. • PL2: An ESSD delivers up to 100,000 random read/write IOPS. • PL3: An ESSD delivers up to 1,000,000 random read/write IOPS. For more information about how to select the PLs of ESSDs, see ESSDs.
ProvisionedIops	Integer	No	No	The IOPS that is preset in the disk.	None.
BurstingEnabled	Boolean	No	No	Specifies whether to enable the burst mode.	Default value: false. Valid values: • true: enables the burst mode. • false: disables the burst mode.

EniMappings syntax

```
"EniMappings": [
  {
    "SecurityGroupId": String,
    "VSwitchId": String,
    "Description": String,
    "NetworkInterfaceName": String,
    "PrimaryIpAddress": String
  }
]
```

EniMappings properties

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	Yes	Yes	The ID of the security group to which the ENI belongs.	None.
VSwitchId	String	Yes	No	The ID of the vSwitch to which the ENI belongs.	None.
Description	String	No	Yes	The description of the ENI.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
NetworkInterfaceName	String	No	Yes	The name of the ENI.	None.
PrimaryIpAddress	String	No	No	The primary IP address of the ENI.	None.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The key cannot start with `aliyun` or `acs:`.
Value	String	No	No	The tag value.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The value cannot start with `aliyun` or `acs:`.

Return values

Fn::GetAtt

- InstanceIds: the IDs of the new ECS instances. An instance ID is a globally unique identifier (GUID) that is generated by the system for an instance.
- PrivateIps: the private IP addresses of new ECS instances in a virtual private cloud (VPC). This property takes effect when the NetworkType property is set to `vpc`. The value is a JSON array that can contain up to 100 IP addresses that are separated by commas (,). Example: ["172.16.XX.XX", "172.16.XX.XX", ... "172.16.XX.XX"].
- InnerIps: the private IP addresses of new ECS instances in the classic network. This property takes effect when the NetworkType property is set to `classic`. The value is a JSON array that can contain up to 100 IP addresses that are separated by commas (,). Example: ["10.1.XX.XX", "10.1.XX.XX", ... "10.1.XX.XX"].
- PublicIps: the public IP addresses of new ECS instances in the classic network. This property takes effect when the NetworkType property is set to `classic`. The value is a JSON array that can contain up to 100 IP addresses that are separated by commas (,). Example: ["42.1.XX.XX", "42.1.XX.XX", ... "42.1.XX.XX"].
- HostNames: the hostnames of all the new ECS instances.
- OrderId: the order ID of the new ECS instances.
- ZoneIds: the zone IDs of the new ECS instances.
- Ipv6AddressIds: the IDs of IPv6 addresses of the new ECS instances. The IPv6 address IDs are returned in a list that has two levels of nesting. If none of the ECS instances have an IPv6 address, the element at the relevant position in the list is empty. If none of the ECS instances have an IP address, null is returned.
- Ipv6Addresses: the IPv6 addresses of the new ECS instances. The IPv6 addresses are returned in a list that has two levels of nesting. If none of the ECS instances have an IPv6 address, the element at the relevant position in the list is empty. If none of the ECS instances have an IP address, null is returned.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": "According the existing ECS instance, clone a set of ECS instanes with the same configuration(InstanceType, Im
ageId, InternetChargeType, InternetMaxBandwidthOut, system disk, data disk configurations, VPC properties). The user only needs
to specify SourceInstanceId.",
  "Parameters": {
    "SourceInstanceId": {
      "Type": "String",
      "Description": {
        "en": "The source ECS instance ID to be cloned",
      },
      "Label": {
        "en": "Source Instance ID"
      }
    },
    "InstanceName": {
      "Type": "String",
      "Description": {
        "en": "[2, 128] alphanumeric letters, underline, dot or hyphen",
      },
```

```
      "ConstraintDescription": {
        "en": "[2, 128] characters, consists of uppercase letter, lowercase letter, number or special characters.",
      },
      "Label": {
        "en": "Instance Name"
      },
      "Default": "ClonedECS",
      "MaxLength": 128,
      "MinLength": 2
    },
    "MaxAmount": {
      "Type": "Number",
      "Description": {
        "en": "The maximum of ECS instances, must be greater than or equal to the minimum.",
      },
      "ConstraintDescription": {
        "en": "An integer within [1, 100]"
      },
      "Label": {
        "en": "The Maximum of ECS Instances"
      },
      "MaxValue": 100,
      "MinValue": 1,
      "Default": 1
    },
    "Password": {
      "Type": "String",
      "Description": {
        "en": "[8, 30] characters, consists of uppercase letter, lowercase letter, number or special characters such as ( ) ` ~
!   / ",
      },
      "ConstraintDescription": {
        "en": "Length 8-30, must contain upper case letters, lower case letters, Numbers, special symbols three; special charac
ters include: ()`~!@#$%^*_-+=|{}[]:;',.?/",
      },
      "Label": {
        "en": "ECS Instance Password"
      },
      "MaxLength": 30,
      "MinLength": 8,
      "NoEcho": true
    }
  },
  "Metadata": {
    "ALIYUN::ROS::Interface": {
      "ParameterGroups": [
        {
          "Parameters": [
            "InstanceName",
            "SourceInstanceId",
            "MaxAmount",
            "Password"
          ],
          "Label": {
            "default": "ECS"
          }
        }
      ],
      "TemplateTags": [
      ]
    }
  },
  "Resources": {
    "ECSInstanceGroup": {
      "Type": "ALIYUN::ECS::InstanceGroupClone",
      "Properties": {
        "SourceInstanceId": {
          "Ref": "SourceInstanceId"
        },
        "MaxAmount": {
          "Ref": "MaxAmount"
        },
        "Password": {
          "Ref": "Password"
```

```
        }
      }
    }
  },
  "Outputs": {
    "InstanceIds": {
      "Description": "The instance ID list of created ecs instance",
      "Value": {
        "Fn::GetAtt": [
          "ECSInstanceGroup",
          "InstanceIds"
        ]
      }
    },
    "PublicIps": {
      "Description": "Public IP address list of created ecs instance.",
      "Value": {
        "Fn::GetAtt": [
          "ECSInstanceGroup",
          "PublicIps"
        ]
      }
    },
    "ZoneIds": {
      "Description": "Zone ID of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "ECSInstanceGroup",
          "ZoneIds"
        ]
      }
    }
  }
}
```

To view more examples, visit InstanceGroup.json and InstanceGroup.yml. In the examples, the following resource types are used: ALIYUN::ECS::InstanceGroup, ALIYUN::ECS::InstanceClone, ALIYUN::ECS::Command, and ALIYUN::ECS::Invocation.

27.17. ALIYUN::ECS::Invocation

ALIYUN::ECS::Invocation is used to run a Cloud Assistant command for one or more ECS instances.

Syntax

```
{
  "Type": "ALIYUN::ECS::Invocation",
  "Properties": {
    "Timed": Boolean,
    "Frequency": String,
    "CommandId": String,
    "Parameters": Map,
    "InstanceIds": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Timed	Boolean	No	No	Specifies whether to run the command on a periodic basis.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
Frequency	String	No	No	The frequency at which the command is run. For more information about the value specifications, see Cron expression.	The interval between two recurring tasks cannot be less than 10 seconds. This parameter is required if the Timed parameter is set to true.
CommandId	String	Yes	No	The ID of the command.	None
InstanceIds	List	Yes	No	The IDs of the instances for which you want to run the command.	A maximum of 50 instance IDs can be specified.
Parameters	Map	No	No	The values of the custom parameters when the custom parameter feature is enabled. The values are key-value pairs. Example: `{"name": "Jack", "accessKey": "LTAIdyv******aRY"}`	Valid number of custom parameters: 0 to 10. The key of Map cannot be an empty string. It can be up to 64 characters in length. The value of Map can be an empty string. After the custom parameters and the original command content are Base64 encoded, the total size cannot exceed 16 KB. The set of custom parameter names must be a subset of the parameter set that is defined when you created the command. You can use empty strings to represent the parameters that are not passed in.

Response parameters

Fn::GetAtt

InvokeId: the invocation ID of the command.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Parameters": {
      "Type": "Json",
      "Description": "The key-value pairs of custom parameters passed in when the script contains custom parameters.\nNumber of
custom parameters: 0 to 10.\nThe key cannot be an empty string. It can be up to 64 characters in length.\nThe value can be an e
mpty string.\nAfter the custom parameters and the original script content are Base64 encoded, the total size cannot exceed 16 K
B.\nThe set of custom parameter names must be a subset of the parameter set that is defined when you created the script. You ca
n use an empty string to represent the parameters that are not passed in.\nDefault value: null, indicating that this parameter
is canceled and customer parameters are disabled.",
      "MaxLength": 10
    },
    "Timed": {
      "Type": "Boolean",
      "Description": "Whether it is timed execution. Default is False.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Frequency": {
      "Type": "String",
      "Description": "The frequency of timing execution (the shortest frequency is performed every 1 minute). It iss mandatory
when Timing is True.The value rule follows the rules of the cron expression. "
    },
    "CommandId": {
      "Type": "String",
      "Description": "The id of command."
    },
    "InstanceIds": {
      "Type": "CommaDelimitedList",
      "Description": "The instance id list. Select up to 20 instances at a time.Instances status must be running."
    }
  },
  "Resources": {
    "Invocation": {
      "Type": "ALIYUN::ECS::Invocation",
      "Properties": {
        "Parameters": {
          "Ref": "Parameters"
        },
        "Timed": {
          "Ref": "Timed"
        },
        "Frequency": {
          "Ref": "Frequency"
        },
        "CommandId": {
          "Ref": "CommandId"
        },
        "InstanceIds": {
          "Ref": "InstanceIds"
        }
      }
    }
  },
  "Outputs": {
    "InvokeId": {
      "Description": "The id of command execution.",
      "Value": {
        "Fn::GetAtt": [
          "Invocation",
          "InvokeId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Parameters:
    Type: Json
    Description: >-
      The key-value pairs of custom parameters passed in when the script
      contains custom parameters.
      Number of custom parameters: 0 to 10.
      The key cannot be an empty string. It can be up to 64 characters in
      length.
      The value can be an empty string.
      After the custom parameters and the original script content are Base64
      encoded, the total size cannot exceed 16 KB.
      The set of custom parameter names must be a subset of the parameter set
      that is defined when you created the script. You can use an empty string
      to represent the parameters that are not passed in.
      Default value: null, indicating that this parameter is canceled and
      customer parameters are disabled.
    MaxLength: 10
  Timed:
    Type: Boolean
    Description: Whether it is timed execution. Default is False.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Frequency:
    Type: String
    Description: >-
      The frequency of timing execution (the shortest frequency is performed
      every 1 minute). It iss mandatory when Timing is True.The value rule
      follows the rules of the cron expression.
  CommandId:
    Type: String
    Description: The id of command.
  InstanceIds:
    Type: CommaDelimitedList
    Description: >-
      The instance id list. Select up to 20 instances at a time.Instances status
      must be running.
Resources:
  Invocation:
    Type: 'ALIYUN::ECS::Invocation'
    Properties:
      Parameters:
        Ref: Parameters
      Timed:
        Ref: Timed
      Frequency:
        Ref: Frequency
      CommandId:
        Ref: CommandId
      InstanceIds:
        Ref: InstanceIds
Outputs:
  InvokeId:
    Description: The id of command execution.
    Value:
      'Fn::GetAtt':
        - Invocation
        - InvokeId
```

27.18. ALIYUN::ECS::JoinSecurityGroup

ALIYUN::ECS::JoinSecurityGroup is used to add one or more ECS instances to a specified security group.

Syntax

```
{
  "Type": "ALIYUN::ECS::JoinSecurityGroup",
  "Properties": {
    "InstanceId": String,
    "InstanceIdList": List,
    "SecurityGroupId": String,
    "NetworkInterfaceList": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	Yes	No	The ID of the security group.	None
InstanceId	String	No	No	The ID of the ECS instance to be added to the security group.	None
InstanceIdList	List	No	Yes	The IDs of the ECS instances to be added to the security group.	None
NetworkInterfaceList	List	No	Yes	The IDs of the elastic network interfaces (ENIs).	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SG": {
      "Type": "ALIYUN::ECS::JoinSecurityGroup",
      "Properties": {
        "SecurityGroupId": "sg-m5eagh7rzys2z8sa****",
        "InstanceIdList": [
          "i-m5e505h9bgsio0wy****",
          "i-m5e505hio0wyjc6r****"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  SG:
    Type: ALIYUN::ECS::JoinSecurityGroup
    Properties:
      SecurityGroupId: sg-m5eagh7rzys2z8sa****
      InstanceIdList:
      - i-m5e505h9bgsio0wy****
      - i-m5e505hio0wyjc6r****
```

27.19. ALIYUN::ECS::LaunchTemplate

ALIYUN::ECS::LaunchTemplate is used to create a launch template for an Elastic Compute Service (ECS) instance.

Syntax

```
{
  "Type": "ALIYUN::ECS::LaunchTemplate",
  "Properties": {
    "LaunchTemplateName": String,
    "VersionDescription": String,
    "ImageId": String,
    "InstanceType": String,
    "SecurityGroupId": String,
    "NetworkType": String,
    "VSwitchId": String,
    "InstanceName": String,
    "Description": String,
    "InternetMaxBandwidthOut": Integer,
    "HostName": String,
    "ZoneId": String,
    "SystemDiskCategory": String,
    "SystemDiskSize": Number,
    "SystemDiskDiskName": String,
    "SystemDiskDescription": String,
    "IoOptimized": String,
    "InternetChargeType": String,
    "UserData": String,
    "KeyPairName": String,
    "RamRoleName": String,
    "AutoReleaseTime": String,
    "SpotStrategy": String,
    "SpotPriceLimit": String,
    "SecurityEnhancementStrategy": String,
    "DiskMappings": List,
    "NetworkInterfaces": List,
    "Tags": List,
    "TemplateTags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LaunchTemplateName	String	Yes	No	The name of the launch template.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
VersionDescription	String	No	No	The description of the launch template version.	The description must be 2 to 128 characters in length. The description must start with a letter but cannot start with `http://` or `https://`.
ImageId	String	No	No	The ID of the image.	None.
InstanceType	String	No	No	The type of the instance.	None.
SecurityGroupId	String	No	No	The ID of the security group.	None.
NetworkType	String	No	No	The network type of the instance.	Valid values: • classic: classic network • vpc: virtual private cloud (VPC)

Property	Type	Required	Editable	Description	Constraint
VSwitchId	String	No	No	The ID of the vSwitch. This property is required when you create an instance of the VPC type.	None.
InstanceName	String	No	No	The name of the instance.	The name must be 2 to 128 characters in length. The name must start with a letter but cannot start with `http://` or `https://` .
Description	String	No	No	The description of the instance.	The description must be 2 to 128 characters in length. The description must start with a letter but cannot start with `http://` or `https://` .
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound public bandwidth.	Valid values: 0 to 100. Unit: Mbit/s.
HostName	String	No	No	The hostname of the instance.	The hostname cannot start or end with a period (.) or hyphen (-). The hostname cannot contain consecutive periods (.) or hyphens (-). The hostname must meet the following requirements: • Windows instances: The hostname must be 2 to 15 characters in length, and can contain letters, digits, and hyphens (-). The hostname cannot contain only digits. • Other instances such as Linux instances: The hostname must be 2 to 64 characters in length, and can contain letters, digits, and hyphens (-).
ZoneId	String	No	No	The ID of the zone in which the instance is deployed.	None.
SystemDiskCategory	String	No	No	The category of the system disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk. • cloud_ssd: SSD • ephemeral_ssd: local SSD
SystemDiskSize	Number	No	No	The size of the system disk.	Valid values: 20 to 500. Unit: GB.
SystemDiskDiskName	String	No	No	The name of the system disk.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons (:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://` .
SystemDiskDescription	String	No	No	The description of the system disk.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://` .
IoOptimized	String	No	No	Specifies whether the instance is an I/O optimized instance.	Valid values: • none: a non-I/O optimized instance • optimized: an I/O optimized instance

Property	Type	Required	Editable	Description	Constraint
InternetChargeType	String	No	No	The metering method for network usage.	Valid values: • PayByBandwidth: pay-by-bandwidth • PayByTraffic: pay-by-data-transfer
UserData	String	No	No	The user data of the instance.	The user data must be encoded in Base64. The raw data can be up to 16 KB in size.
KeyPairName	String	No	No	The name of the key pair.	The name must meet the following requirements: • Windows instances: You can ignore this property. By default, this property is empty. The Password property takes effect even if you specify the KeyPairName property. • Linux instances: By default, password-based logon is disabled.
RamRoleName	String	No	No	The name of the RAM role for the instance.	None.
AutoReleaseTime	String	No	No	The time at which the system automatically releases the instance.	Specify the time in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC.
SpotStrategy	String	No	No	The preemption policy for a pay-as-you-go instance.	This property takes effect when you set the InstanceChargeType property to Postpaid. Valid values: • NoSpot: The instance is created as a regular pay-as-you-go instance. • SpotWithPriceLimit: The instance is created as a preemptible instance for which you specify the maximum hourly price. • SpotAsPriceGo: The instance is created as a preemptible instance whose price is based on the market price at the time of purchase. The market price can be equal to the price of a pay-as-you-go instance.
SpotPriceLimit	String	No	No	The maximum hourly price that you specify for the instance.	The value of this property can contain up to three decimal places.
SecurityEnhancementStrategy	String	No	No	Specifies whether to enable security hardening.	Valid values: • Active: enables security hardening. • Deactive: disables security hardening.
DiskMappings	List	No	No	The data disks.	You can specify up to 16 data disks. For more information, see DiskMappings properties.
NetworkInterfaces	List	No	No	The elastic network interfaces (ENIs).	You can specify up to eight ENIs. For more information, see NetworkInterfaces properties.
Tags	List	No	No	The tags of the instance, security group, disk, or ENI.	You can specify up to 20 tags. For more information, see Tags properties.

Property	Type	Required	Editable	Description	Constraint
TemplateTags	List	No	No	The tags of the launch template.	You can specify up to 20 tags. For more information, see TemplateTags properties.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "SnapshotId": String,
    "Size": String,
    "Encrypted": String,
    "DeleteWithInstance": String
  }
]
```

DiskMappings properties

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The category of the data disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • ephemeral_ssd: local SSD
DiskName	String	No	No	The name of the data disk.	The name must be 2 to 128 characters in length, and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
SnapshotId	String	No	No	The ID of the snapshot that is used to create the data disk.	None.
Size	String	No	No	The size of the system disk.	Valid values: • Valid values if you set the Category property to cloud: 5 to 2000 • Valid values if you set the Category property to cloud_efficiency: 20 to 32768 • Valid values if you set the Category property to cloud_ssd: 20 to 32768 • Valid values if you set the Category property to ephemeral_ssd: 5 to 800 Unit: GB.
Encrypted	Boolean	No	No	Specifies whether to encrypt the data disk.	Valid values: • true: encrypts the data disk. • false: does not encrypt the data disk.

Property	Type	Required	Editable	Description	Constraint
DeleteWithInstance	Boolean	No	No	Specifies whether the system releases the data disk when the instance is released.	Valid values: • true: releases the data disk when the instance is released. • false: does not release the data disk when the instance is released.

NetworkInterfaces syntax

```
"NetworkInterfaces": [
  {
    "PrimaryIpAddress": String,
    "VSwitchId": String,
    "SecurityGroupId": String,
    "NetworkInterfaceName": String,
    "Description": String
  }
]
```

NetworkInterfaces properties

Property	Type	Required	Editable	Description	Constraint
PrimaryIpAddress	String	No	No	The primary private IP address of the ENI.	None.
VSwitchId	String	No	No	The ID of the vSwitch to which the ENI belongs.	None.
SecurityGroupId	String	No	No	The ID of the security group to which the ENI belongs.	None.
NetworkInterfaceName	String	No	No	The name of the ENI.	None.
Description	String	No	No	The description of the ENI.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	No	No	The tag key.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

TemplateTags syntax

```
"TemplateTags": [
  {
    "Value": String,
    "Key": String
  }
]
```

TemplateTags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	No	No	The tag key.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- LaunchTemplateId: the ID of the launch template.
- LaunchTemplateName: the name of the launch template.
- DefaultVersionNumber: the default version number of the launch template.
- LatestVersionNumber: the latest version number of the launch template.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of the instance, [2, 256] characters."
    },
    "DiskMappings": {
      "Type": "Json",
      "Description": "Disk mappings to attach to instance. Max support 16 disks.",
      "MaxLength": 16
    },
    "SystemDiskSize": {
      "Type": "Number",
      "Description": "Disk size of the system disk, range from 20 to 500 GB. If you specify with your own image, make sure the
system disk size bigger than image size. ",
      "MinValue": 20
    },
    "UserData": {
      "Type": "String",
      "Description": "User data to pass to instance. [1, 16KB] characters."
    },
    "SystemDiskDescription": {
      "Type": "String",
      "Description": "Description of created system disk."
    },
    "TemplateTags": {
      "Type": "Json",
      "Description": "Template tags to attach to launch template.",
      "MaxLength": 20
    },
    "RamRoleName": {
      "Type": "String",
      "Description": "Instance RAM role name. The name is provided and maintained by Resource Access Management (RAM) and can b
e queried using ListRoles. For more information, see RAM API CreateRole and ListRoles."
```

```
    },
    "NetworkType": {
      "Type": "String",
      "Description": "Instance network type. Support 'vpc' and 'classic'",
      "AllowedValues": [
        "vpc",
        "classic"
      ]
    },
    "NetworkInterfaces": {
      "Type": "Json",
      "Description": "Elastic network interfaces to be attached to instance.",
      "MaxLength": 8
    },
    "ImageId": {
      "Type": "String",
      "Description": "Image ID to create ecs instance."
    },
    "SystemDiskDiskName": {
      "Type": "String",
      "Description": "Name of created system disk."
    },
    "SpotPriceLimit": {
      "Type": "String",
      "Description": "The hourly price threshold of a instance, and it takes effect only when parameter InstanceChargeType is P
ostPaid. Three decimals is allowed at most. "
    },
    "InstanceType": {
      "Type": "String",
      "Description": "Ecs instance supported instance type, make sure it should be correct."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance, security group, disk and network interface.",
      "MaxLength": 20
    },
    "HostName": {
      "Type": "String",
      "Description": "Host name of created ecs instance. at least 2 characters, and '.' '-' Is not the first and last character
s as hostname, not continuous use. Windows platform can be up to 15 characters, allowing letters (without limiting case), numbe
rs and '-', and does not support the number of points, not all is digital ('.').Other (Linux, etc.) platform up to 30 character
s, allowing support number multiple points for the period between the points, each permit letters (without limiting case), numb
ers and '-' components."
    },
    "SpotStrategy": {
      "Type": "String",
      "Description": "The spot strategy of a Pay-As-You-Go instance, and it takes effect only when parameter InstanceChargeType
is PostPaid. Value range: \"NoSpot: A regular Pay-As-You-Go instance\", \"SpotWithPriceLimit: A price threshold for a spot inst
ance, \"\"SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance. \"",
      "AllowedValues": [
        "NoSpot",
        "SpotWithPriceLimit",
        "SpotAsPriceGo"
      ]
    },
    "KeyPairName": {
      "Type": "String",
      "Description": "SSH key pair name."
    },
    "LaunchTemplateName": {
      "Type": "String",
      "Description": "The name of launch template."
    },
    "IoOptimized": {
      "Type": "String",
      "Description": "The 'optimized' instance can provide better IO performance. Support 'none' and 'optimized' only.",
      "AllowedValues": [
        "none",
        "optimized"
      ]
    },
    "VersionDescription": {
      "Type": "String",
      "Description": "Description for version 1 of launch template."
```

```
    },
    "ZoneId": {
      "Type": "String",
      "Description": "Current zone to create the instance."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch Id to create ecs instance."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Security group to create ecs instance. For classic instance need the security group not belong to VPC, fo
r VPC instance, please make sure the security group belong to specified VPC."
    },
    "SystemDiskCategory": {
      "Type": "String",
      "Description": "Category of system disk. support cloud|cloud_efficiency|cloud_ssd|cloud_essd|ephemeral_ssd",
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd",
        "cloud_essd",
        "ephemeral_ssd"
      ]
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "Instance internet access charge type.Support 'PayByBandwidth' and 'PayByTraffic' only.",
      "AllowedValues": [
        "PayByBandwidth",
        "PayByTraffic"
      ]
    },
    "InstanceName": {
      "Type": "String",
      "Description": "Display name of the instance, [2, 128] English or Chinese characters, must start with a letter or Chinese
in size, can contain numbers, '_' or '.', '-'"
    },
    "InternetMaxBandwidthOut": {
      "Type": "Number",
      "Description": "Max internet out bandwidth in Mbps(Mega bit per second). Range is [0,200].While the property is not 0, pu
blic ip will be assigned for instance.",
      "MinValue": 0,
      "MaxValue": 200
    },
    "SecurityEnhancementStrategy": {
      "Type": "String",
      "Description": "Activate or deactivate security enhancement,Value range: \"Active\" and \"Deactive\"",
      "AllowedValues": [
        "Active",
        "Deactive"
      ]
    },
    "AutoReleaseTime": {
      "Type": "String",
      "Description": "Auto release time for created instance, Follow ISO8601 standard using UTC time. format is 'yyyy-MM-ddTHH:
mm:ssZ'. Not bigger than 3 years from this day onwards"
    }
  },
  "Resources": {
    "LaunchTemplate": {
      "Type": "ALIYUN::ECS::LaunchTemplate",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "DiskMappings": {
          "Ref": "DiskMappings"
        },
        "SystemDiskSize": {
          "Ref": "SystemDiskSize"
        },
        "UserData": {
          "Ref": "UserData"
```

```
        },
        "SystemDiskDescription": {
          "Ref": "SystemDiskDescription"
        },
        "TemplateTags": {
          "Ref": "TemplateTags"
        },
        "RamRoleName": {
          "Ref": "RamRoleName"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "NetworkInterfaces": {
          "Ref": "NetworkInterfaces"
        },
        "ImageId": {
          "Ref": "ImageId"
        },
        "SystemDiskDiskName": {
          "Ref": "SystemDiskDiskName"
        },
        "SpotPriceLimit": {
          "Ref": "SpotPriceLimit"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "HostName": {
          "Ref": "HostName"
        },
        "SpotStrategy": {
          "Ref": "SpotStrategy"
        },
        "KeyPairName": {
          "Ref": "KeyPairName"
        },
        "LaunchTemplateName": {
          "Ref": "LaunchTemplateName"
        },
        "IoOptimized": {
          "Ref": "IoOptimized"
        },
        "VersionDescription": {
          "Ref": "VersionDescription"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "SystemDiskCategory": {
          "Ref": "SystemDiskCategory"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "InternetMaxBandwidthOut": {
          "Ref": "InternetMaxBandwidthOut"
        },
        "SecurityEnhancementStrategy": {
          "Ref": "SecurityEnhancementStrategy"
        },
        "AutoReleaseTime": {
```

```
          "Ref": "AutoReleaseTime"
        }
      }
    }
  },
  "Outputs": {
    "LaunchTemplateName": {
      "Description": "The name of launch template.",
      "Value": {
        "Fn::GetAtt": [
          "LaunchTemplate",
          "LaunchTemplateName"
        ]
      }
    },
    "LatestVersionNumber": {
      "Description": "The latest version number of launch template.",
      "Value": {
        "Fn::GetAtt": [
          "LaunchTemplate",
          "LatestVersionNumber"
        ]
      }
    },
    "LaunchTemplateId": {
      "Description": "The id of launch template.",
      "Value": {
        "Fn::GetAtt": [
          "LaunchTemplate",
          "LaunchTemplateId"
        ]
      }
    },
    "DefaultVersionNumber": {
      "Description": "The default version number of launch template.",
      "Value": {
        "Fn::GetAtt": [
          "LaunchTemplate",
          "DefaultVersionNumber"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: 'Description of the instance, [2, 256] characters.'
  DiskMappings:
    Type: Json
    Description: Disk mappings to attach to instance. Max support 16 disks.
    MaxLength: 16
  SystemDiskSize:
    Type: Number
    Description: >-
      Disk size of the system disk, range from 20 to 500 GB. If you specify with
      your own image, make sure the system disk size bigger than image size.
    MinValue: 20
  UserData:
    Type: String
    Description: 'User data to pass to instance. [1, 16KB] characters.'
  SystemDiskDescription:
    Type: String
    Description: Description of created system disk.
  TemplateTags:
    Type: Json
    Description: Template tags to attach to launch template.
    MaxLength: 20
  RamRoleName:
    Type: String
```

```
    Type: String
    Description: >-
      Instance RAM role name. The name is provided and maintained by Resource
      Access Management (RAM) and can be queried using ListRoles. For more
      information, see RAM API CreateRole and ListRoles.
  NetworkType:
    Type: String
    Description: Instance network type. Support 'vpc' and 'classic'
    AllowedValues:
      - vpc
      - classic
  NetworkInterfaces:
    Type: Json
    Description: Elastic network interfaces to be attached to instance.
    MaxLength: 8
  ImageId:
    Type: String
    Description: Image ID to create ecs instance.
  SystemDiskDiskName:
    Type: String
    Description: Name of created system disk.
  SpotPriceLimit:
    Type: String
    Description: >-
      The hourly price threshold of a instance, and it takes effect only when
      parameter InstanceChargeType is PostPaid. Three decimals is allowed at
      most.
  InstanceType:
    Type: String
    Description: 'Ecs instance supported instance type, make sure it should be correct.'
  Tags:
    Type: Json
    Description: 'Tags to attach to instance, security group, disk and network interface.'
    MaxLength: 20
  HostName:
    Type: String
    Description: >-
      Host name of created ecs instance. at least 2 characters, and '.' '-' Is
      not the first and last characters as hostname, not continuous use. Windows
      platform can be up to 15 characters, allowing letters (without limiting
      case), numbers and '-', and does not support the number of points, not all
      is digital ('.').Other (Linux, etc.) platform up to 30 characters,
      allowing support number multiple points for the period between the points,
      each permit letters (without limiting case), numbers and '-' components.
  SpotStrategy:
    Type: String
    Description: >-
      The spot strategy of a Pay-As-You-Go instance, and it takes effect only
      when parameter InstanceChargeType is PostPaid. Value range: "NoSpot: A
      regular Pay-As-You-Go instance", "SpotWithPriceLimit: A price threshold
      for a spot instance, ""SpotAsPriceGo: A price that is based on the highest
      Pay-As-You-Go instance. "
    AllowedValues:
      - NoSpot
      - SpotWithPriceLimit
      - SpotAsPriceGo
  KeyPairName:
    Type: String
    Description: SSH key pair name.
  LaunchTemplateName:
    Type: String
    Description: The name of launch template.
  IoOptimized:
    Type: String
    Description: >-
      The 'optimized' instance can provide better IO performance. Support 'none'
      and 'optimized' only.
    AllowedValues:
      - none
      - optimized
  VersionDescription:
    Type: String
    Description: Description for version 1 of launch template.
  ZoneId:
    Type: String
```

```
    Description: Current zone to create the instance.
  VSwitchId:
    Type: String
    Description: The vSwitch Id to create ecs instance.
  SecurityGroupId:
    Type: String
    Description: >-
      Security group to create ecs instance. For classic instance need the
      security group not belong to VPC, for VPC instance, please make sure the
      security group belong to specified VPC.
  SystemDiskCategory:
    Type: String
    Description: >-
      Category of system disk. support
      cloud|cloud_efficiency|cloud_ssd|cloud_essd|ephemeral_ssd
    AllowedValues:
      - cloud
      - cloud_efficiency
      - cloud_ssd
      - cloud_essd
      - ephemeral_ssd
  InternetChargeType:
    Type: String
    Description: >-
      Instance internet access charge type.Support 'PayByBandwidth' and
      'PayByTraffic' only.
    AllowedValues:
      - PayByBandwidth
      - PayByTraffic
  InstanceName:
    Type: String
    Description: >-
      Display name of the instance, [2, 128] English or Chinese characters, must
      start with a letter or Chinese in size, can contain numbers, '_' or '.',
      '-'
  InternetMaxBandwidthOut:
    Type: Number
    Description: >-
      Max internet out bandwidth in Mbps(Mega bit per second). Range is
      [0,200].While the property is not 0, public ip will be assigned for
      instance.
    MinValue: 0
    MaxValue: 200
  SecurityEnhancementStrategy:
    Type: String
    Description: >-
      Activate or deactivate security enhancement,Value range: "Active" and
      "Deactive"
    AllowedValues:
      - Active
      - Deactive
  AutoReleaseTime:
    Type: String
    Description: >-
      Auto release time for created instance, Follow ISO8601 standard using UTC
      time. format is 'yyyy-MM-ddTHH:mm:ssZ'. Not bigger than 3 years from this
      day onwards
Resources:
  LaunchTemplate:
    Type: 'ALIYUN::ECS::LaunchTemplate'
    Properties:
      Description:
        Ref: Description
      DiskMappings:
        Ref: DiskMappings
      SystemDiskSize:
        Ref: SystemDiskSize
      UserData:
        Ref: UserData
      SystemDiskDescription:
        Ref: SystemDiskDescription
      TemplateTags:
        Ref: TemplateTags
      RamRoleName:
```

```
        Ref: RamRoleName
      NetworkType:
        Ref: NetworkType
      NetworkInterfaces:
        Ref: NetworkInterfaces
      ImageId:
        Ref: ImageId
      SystemDiskDiskName:
        Ref: SystemDiskDiskName
      SpotPriceLimit:
        Ref: SpotPriceLimit
      InstanceType:
        Ref: InstanceType
      Tags:
        Ref: Tags
      HostName:
        Ref: HostName
      SpotStrategy:
        Ref: SpotStrategy
      KeyPairName:
        Ref: KeyPairName
      LaunchTemplateName:
        Ref: LaunchTemplateName
      IoOptimized:
        Ref: IoOptimized
      VersionDescription:
        Ref: VersionDescription
      ZoneId:
        Ref: ZoneId
      VSwitchId:
        Ref: VSwitchId
      SecurityGroupId:
        Ref: SecurityGroupId
      SystemDiskCategory:
        Ref: SystemDiskCategory
      InternetChargeType:
        Ref: InternetChargeType
      InstanceName:
        Ref: InstanceName
      InternetMaxBandwidthOut:
        Ref: InternetMaxBandwidthOut
      SecurityEnhancementStrategy:
        Ref: SecurityEnhancementStrategy
      AutoReleaseTime:
        Ref: AutoReleaseTime
Outputs:
  LaunchTemplateName:
    Description: The name of launch template.
    Value:
      'Fn::GetAtt':
        - LaunchTemplate
        - LaunchTemplateName
  LatestVersionNumber:
    Description: The latest version number of launch template.
    Value:
      'Fn::GetAtt':
        - LaunchTemplate
        - LatestVersionNumber
  LaunchTemplateId:
    Description: The id of launch template.
    Value:
      'Fn::GetAtt':
        - LaunchTemplate
        - LaunchTemplateId
  DefaultVersionNumber:
    Description: The default version number of launch template.
    Value:
      'Fn::GetAtt':
        - LaunchTemplate
        - DefaultVersionNumber
```

To view more examples, visit LaunchTemplate.json and LaunchTemplate.yml. In the examples, the ALIYUN::ECS::LaunchTemplate and ALIYUN::ECS::AutoProvisioningGroup resource types are used.

27.20. ALIYUN::ECS::NetworkInterface

ALIYUN::ECS::NetworkInterface is used to create an elastic network interface (ENI).

Syntax

```
{
  "Type": "ALIYUN::ECS::NetworkInterface",
  "Properties": {
    "Description": String,
    "SecurityGroupId": String,
    "PrimaryIpAddress": String,
    "ResourceGroupId": String,
    "VSwitchId": String,
    "NetworkInterfaceName": String,
    "Tags": List,
    "SecurityGroupIds": List,
    "PrivateIpAddresses": List,
    "SecondaryPrivateIpAddressCount": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the ENI belongs.	.You can call the ListResourceGroups operation to query the resource group ID.
SecurityGroupId	String	No	Yes	The ID of the security group to which the ENI belongs.	The security groups and the ENI must belong to the same VPC. **Note** You cannot configure the SecurityGroupId and SecurityGroupIds properties at the same time.
VSwitchId	String	Yes	No	The vSwitch ID of the ENI.	None
Description	String	No	Yes	The description of the ENI.	The description must be 2 to 256 characters in length and cannot start with `http://` or `https://`.
NetworkInterface Name	String	No	Yes	The name of the ENI.	The name must be 2 to 128 characters in length and can contain letters, digits, colons(:), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
PrimaryIpAddress	String	No	No	The primary private IP address of the ENI.	The specified IP address must be an idle IP address within the CIDR block of the vSwitch. If this property is not specified, an idle IP address is assigned from the vSwitch CIDR block at random.
SecondaryPrivateI pAddressCount	Integer	No	No	The number of secondary private IP addresses.	None
Tags	List	No	Yes	The tags of the ENI.	You can add up to 20 tags. For more information, see Tags properties.

Property	Type	Required	Editable	Description	Constraint
SecurityGroupIds	List	No	Yes	The IDs of one or more security groups to which the ENI belongs.	The security groups and the ENI must belong to the same VPC. **Note** You cannot configure the SecurityGroupId and SecurityGroupIds properties at the same time.
PrivateIpAddresses	List	No	No	The secondary private IP addresses selected from the CIDR block of the vSwitch that hosts the ENI.	• Valid values if the ENI is in the Available state: 1 to 10. • Valid values vary based on the instance type if the ENI is in the InUse state. For more information, see Instance family.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- NetworkInterfaceId: the ID of the ENI.
- MacAddress: the MAC address of the ENI.
- PrivateIpAddresses: the private IP addresses assigned to the ENI.
- SecondaryPrivateIpAddresses: the secondary private IP addresses assigned to the ENI.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of your ENI. It is a string of [2, 256] English or Chinese characters."
    },
    "PrivateIpAddresses": {
      "Type": "Json",
      "Description": "Specifies secondary private IP addresses of the ENI. This IP address must be an available IP address in t
he CIDR block of the VSwitch to which the ENI belongs.",
      "MaxLength": 10
    },
    "ResourceGroupId": {
      "Type": "String",
```

```
      "Description": "Resource group id."
    },
    "SecondaryPrivateIpAddressCount": {
      "Type": "Number",
      "Description": "The number of private IP addresses that can be created automatically by ECS."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "The ID of the security group that the ENI joins. The security group and the ENI must be in a same VPC."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "VSwitch ID of the specified VPC. Specifies the switch ID for the VPC."
    },
    "NetworkInterfaceName": {
      "Type": "String",
      "Description": "Name of your ENI. It is a string of [2, 128]  Chinese or English characters. It must begin with a letter
and can contain numbers, underscores (_), colons (:), or hyphens (-)."
    },
    "PrimaryIpAddress": {
      "Type": "String",
      "Description": "The primary private IP address of the ENI.  The specified IP address must have the same Host ID as the VS
witch. If no IP addresses are specified, a random network ID is assigned for the ENI."
    },
    "SecurityGroupIds": {
      "Type": "Json",
      "Description": "The IDs of the security groups that the ENI joins. The security groups and the ENI must belong to the sam
e VPC.",
      "MaxLength": 16
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "EniInstance": {
      "Type": "ALIYUN::ECS::NetworkInterface",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "PrivateIpAddresses": {
          "Ref": "PrivateIpAddresses"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "SecondaryPrivateIpAddressCount": {
          "Ref": "SecondaryPrivateIpAddressCount"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "NetworkInterfaceName": {
          "Ref": "NetworkInterfaceName"
        },
        "PrimaryIpAddress": {
          "Ref": "PrimaryIpAddress"
        },
        "SecurityGroupIds": {
          "Ref": "SecurityGroupIds"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
```

```
  "Outputs": {
    "PrivateIpAddress": {
      "Description": "The primary private ip address of your Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniInstance",
          "PrivateIpAddress"
        ]
      }
    },
    "SecondaryPrivateIpAddresses": {
      "Description": "The secondary private IP addresses of your Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniInstance",
          "SecondaryPrivateIpAddresses"
        ]
      }
    },
    "MacAddress": {
      "Description": "The MAC address of your Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniInstance",
          "MacAddress"
        ]
      }
    },
    "NetworkInterfaceId": {
      "Description": "ID of your Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniInstance",
          "NetworkInterfaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: Description of your ENI. It is a string of [2, 256] English or Chinese
      characters.
    Type: String
  NetworkInterfaceName:
    Description: Name of your ENI. It is a string of [2, 128]  Chinese or English
      characters. It must begin with a letter and can contain numbers, underscores
      (_), colons (:), or hyphens (-).
    Type: String
  PrimaryIpAddress:
    Description: The primary private IP address of the ENI.  The specified IP address
      must have the same Host ID as the VSwitch. If no IP addresses are specified,
      a random network ID is assigned for the ENI.
    Type: String
  PrivateIpAddresses:
    Description: Specifies secondary private IP addresses of the ENI. This IP address
      must be an available IP address in the CIDR block of the VSwitch to which the
      ENI belongs.
    MaxLength: 10
    Type: Json
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  SecondaryPrivateIpAddressCount:
    Description: The number of private IP addresses that can be created automatically
      by ECS.
    Type: Number
  SecurityGroupId:
    Description: The ID of the security group that the ENI joins. The security group
      and the ENI must be in a same VPC.
```

```
    Type: String
  SecurityGroupIds:
    Description: The IDs of the security groups that the ENI joins. The security groups
      and the ENI must belong to the same VPC.
    MaxLength: 16
    Type: Json
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: VSwitch ID of the specified VPC. Specifies the switch ID for the
      VPC.
    Type: String
Resources:
  EniInstance:
    Properties:
      Description:
        Ref: Description
      NetworkInterfaceName:
        Ref: NetworkInterfaceName
      PrimaryIpAddress:
        Ref: PrimaryIpAddress
      PrivateIpAddresses:
        Ref: PrivateIpAddresses
      ResourceGroupId:
        Ref: ResourceGroupId
      SecondaryPrivateIpAddressCount:
        Ref: SecondaryPrivateIpAddressCount
      SecurityGroupId:
        Ref: SecurityGroupId
      SecurityGroupIds:
        Ref: SecurityGroupIds
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
    Type: ALIYUN::ECS::NetworkInterface
Outputs:
  MacAddress:
    Description: The MAC address of your Network Interface.
    Value:
      Fn::GetAtt:
      - EniInstance
      - MacAddress
  NetworkInterfaceId:
    Description: ID of your Network Interface.
    Value:
      Fn::GetAtt:
      - EniInstance
      - NetworkInterfaceId
  PrivateIpAddress:
    Description: The primary private ip address of your Network Interface.
    Value:
      Fn::GetAtt:
      - EniInstance
      - PrivateIpAddress
  SecondaryPrivateIpAddresses:
    Description: The secondary private IP addresses of your Network Interface.
    Value:
      Fn::GetAtt:
      - EniInstance
      - SecondaryPrivateIpAddresses
```

To view more examples, visit NetworkInterfaceAttachment.json and NetworkInterfaceAttachment.yml. In the examples, the ALIYUN::ECS::NetworkInterface, ALIYUN::ECS::NetworkInterfaceAttachment, and ALIYUN::ECS::NetworkInterfacePermission resource types are used.

27.21. ALIYUN::ECS::NetworkInterfaceAttachment

ALIYUN::ECS::NetworkInterfaceAttachment is used to bind an elastic network interface (ENI) to an Elastic Compute Service (ECS) instance in a virtual private cloud (VPC).

Syntax

```
{
  "Type": "ALIYUN::ECS::NetworkInterfaceAttachment",
  "Properties": {
    "InstanceId": String,
    "NetworkInterfaceId": String,
    "TrunkNetworkInstanceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the instance.	None
NetworkInterfaceId	String	Yes	No	The ID of the ENI.	None
TrunkNetworkInstanceId	String	No	No	The ID of the trunk network interface.	None

Return values

Fn::GetAtt

- NetworkInterfaceId: the ID of the ENI.
- TrunkNetworkInstanceId: the ID of the trunk network interface.
- InstanceId: the ID of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "ECS instance id"
    },
    "TrunkNetworkInstanceId": {
      "Type": "String"
    },
    "NetworkInterfaceId": {
      "Type": "String",
      "Description": "Network interface id"
    }
  },
  "Resources": {
    "EniAttachment": {
      "Type": "ALIYUN::ECS::NetworkInterfaceAttachment",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "TrunkNetworkInstanceId": {
          "Ref": "TrunkNetworkInstanceId"
        },
        "NetworkInterfaceId": {
          "Ref": "NetworkInterfaceId"
        }
      }
    }
  },
  "Outputs": {
    "TrunkNetworkInstanceId": {
      "Description": "ID of Trunk Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniAttachment",
          "TrunkNetworkInstanceId"
        ]
      }
    },
    "NetworkInterfaceId": {
      "Description": "ID of your Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniAttachment",
          "NetworkInterfaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InstanceId:
    Type: String
    Description: ECS instance id
  TrunkNetworkInstanceId:
    Type: String
  NetworkInterfaceId:
    Type: String
    Description: Network interface id
Resources:
  EniAttachment:
    Type: 'ALIYUN::ECS::NetworkInterfaceAttachment'
    Properties:
      InstanceId:
        Ref: InstanceId
      TrunkNetworkInstanceId:
        Ref: TrunkNetworkInstanceId
      NetworkInterfaceId:
        Ref: NetworkInterfaceId
Outputs:
  TrunkNetworkInstanceId:
    Description: ID of Trunk Network Interface.
    Value:
      'Fn::GetAtt':
        - EniAttachment
        - TrunkNetworkInstanceId
  NetworkInterfaceId:
    Description: ID of your Network Interface.
    Value:
      'Fn::GetAtt':
        - EniAttachment
        - NetworkInterfaceId
```

To view more examples, visit NetworkInterfaceAttachment.json and NetworkInterfaceAttachment.yml. In the examples, the ALIYUN::ECS::NetworkInterface, ALIYUN::ECS::NetworkInterfaceAttachment, and ALIYUN::ECS::NetworkInterfacePermission resource types are used.

27.22. ALIYUN::ECS::NetworkInterfacePermission

ALIYUN::ECS::NetworkInterfacePermission is used to grant an account the permission to attach an elastic network interface (ENI) to an instance.

Syntax

```
{
  "Type": "ALIYUN::ECS::NetworkInterfacePermission",
  "Properties": {
    "NetworkInterfaceId": String,
    "AccountId": String,
    "Permission": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
NetworkInterfaceId	String	Yes	No	The ID of the ENI.	None
AccountId	String	Yes	No	The ID of the account.	None
Permission	String	Yes	No	The permission granted to the account.	None

Response parameters

Fn::GetAtt

- NetworkInterfacePermissionId: the ID of the ENI permission.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AccountId": {
      "Type": "String",
      "Description": "the account id"
    },
    "Permission": {
      "Type": "String",
      "Description": "the permission",
      "Default": "InstanceAttach"
    },
    "NetworkInterfaceId": {
      "Type": "String",
      "Description": "Network interface id"
    }
  },
  "Resources": {
    "EniPermission": {
      "Type": "ALIYUN::ECS::NetworkInterfacePermission",
      "Properties": {
        "AccountId": {
          "Ref": "AccountId"
        },
        "Permission": {
          "Ref": "Permission"
        },
        "NetworkInterfaceId": {
          "Ref": "NetworkInterfaceId"
        }
      }
    }
  },
  "Outputs": {
    "NetworkInterfacePermissionId": {
      "Description": "the network interface permission id",
      "Value": {
        "Fn::GetAtt": [
          "EniPermission",
          "NetworkInterfacePermissionId"
        ]
      }
    }
  }
}
```

27.23. ALIYUN::ECS::Route

ALIYUN::ECS::Route is used to create a custom route entry.

Syntax

```
{
  "Type": "ALIYUN::ECS::Route",
  "Properties": {
    "DestinationCidrBlock": String,
    "RouteTableId": String,
    "NextHopId": String,
    "NextHopType": String,
    "NextHopList": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
DestinationCidrBlock	String	Yes	No	The destination CIDR block of the custom route entry.	None
RouteTableId	String	Yes	No	The ID of the route table.	None
NextHopId	String	No	No	The ID of the next-hop instance for the custom route entry.	None
NextHopType	String	No	No	The type of the next hop.	Default value: Instance. Valid values: • Instance: an Elastic Compute Service (ECS) instance • HaVip: a high-availability virtual IP address (HAVIP) • RouterInterface: a router interface • NetworkInterface: an elastic network interface (ENI) • VpnGateway: a VPN gateway • IPv6Gateway: an IPv6 gateway • NatGateway: a NAT gateway • Attachment: a transit router
NextHopList	List	No	No	The list of next hops of the custom route entry.	If you set the NextHopList property, the route entry is an equal-cost multipath (ECMP) route. Valid values: 2 to 4. For more information, see NextHopList properties.

NextHopList syntax

```
"NextHopList": [
  {
    "NextHopId": String,
    "NextHopType": String
  }
]
```

NextHopList properties

Property	Type	Required	Editable	Description	Constraint
NextHopId	String	Yes	No	The ID of the next-hop instance for the ECMP route entry.	None
NextHopType	String	No	No	The type of the next hop for the ECMP route entry.	Set the value to RouterInterface.

Return values

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ECSRoute": {
      "Type": "ALIYUN::ECS::Route",
      "Properties": {
        "RouteTableId": "vtb-25oud****",
        "DestinationCidrBlock": "172.16.XX.XX/24",
        "NextHopId": "i-25xzy****"
      }
    }
  }
}
```

To view more examples, visit Route.json and Route.yml. In the examples, the ALIYUN::ECS::AssignIpv6Addresses and ALIYUN::ECS::Route resource types are used.

27.24. ALIYUN::ECS::SNatEntry

ALIYUN::ECS::SNatEntry is used to configure the Source Network Address Translation (SNAT) table of a NAT gateway.

Syntax

```
{
  "Type": "ALIYUN::ECS::SNatEntry",
  "Properties": {
    "SNatTableId": String,
    "SNatIp": String,
    "SnatEntryName": String,
    "SourceCIDR": String,
    "SourceVSwitchId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SNatTableId	String	Yes	Yes	The ID of the SNAT table.	None
SNatIp	String	Yes	Yes	The public IP address to be translated.	The public IP address must be included in the NAT service plan. It cannot exist in both the forwarding table and the SNAT table.
SnatEntryName	String	No	Yes	The name of the SNAT entry.	The name must be 2 to 128 characters in length. It must start with a letter and cannot start with `http://` or `https://` .

Property	Type	Required	Editable	Description	Constraint
SourceCIDR	String	No	No	The CIDR block of the vSwitch or the IP address of the ECS instance. • vSwitch granularity: specifies the CIDR block of the vSwitch such as 192.168.1.0/24. When an ECS instance attached to the vSwitch requires Internet access, the NAT gateway provides the SNAT service (Internet proxy service) for the ECS instance. If you specify only one public IP address for the SnatIp parameter, the ECS instance uses the specified public IP address to access the Internet. If you specify multiple public IP addresses for the SnatIp parameter, the ECS instance randomly selects a public IP address from SnatIp to access the Internet. • ECS granularity: specifies the IP address of the ECS instance such as 192.168.1.1/32. When the ECS instance requires Internet access, the NAT gateway provides the SNAT service (Internet proxy service) for the ECS instance. If you specify only one public IP address for the SnatIp parameter, the ECS instance uses the specified public IP address to access the Internet. If you specify multiple public IP addresses for the SnatIp parameter, the ECS instance randomly selects a public IP address from SnatIp to access the Internet.	You must specify one of the SourceCIDR and SourceVSwtichId parameters, but you cannot specify both of them.
SourceVSwitchId	String	No	Yes	The vSwitch ID of the ECS instance that accesses the Internet by using the SNAT feature.	You must specify one of the SourceCIDR and SourceVSwtichId parameters, but you cannot specify both of them.

Response parameters

Fn::GetAtt

SNatEntryId: the ID of each entry in the SNAT table.

Example

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SourceVSwitchId": {
      "Type": "String",
      "Description": "Allow which switch can access internet."
    },
    "SnatEntryName": {
      "Type": "String",
      "Description": "he name of the SNAT rule is 2-128 characters long and must start with a letter or Chinese, but cannot beg
in with HTTP:// or https://."
    },
    "SourceCIDR": {
      "Type": "String",
      "Description": "Specifies the network segment of the switch. For example, 10.0.0.1/24. This parameter and the SourceVSwti
chId parameter are mutually exclusive and cannot appear at the same time."
    },
    "SNatTableId": {
      "Type": "String",
      "Description": "Create SNAT entry in specified SNAT table."
    },
    "SNatIp": {
      "Type": "String",
      "Description": "Source IP, must belongs to bandwidth package internet IP"
    }
  },
  "Resources": {
    "SNatTableEntry": {
      "Type": "ALIYUN::ECS::SNatEntry",
      "Properties": {
        "SourceVSwitchId": {
          "Ref": "SourceVSwitchId"
        },
        "SnatEntryName": {
          "Ref": "SnatEntryName"
        },
        "SourceCIDR": {
          "Ref": "SourceCIDR"
        },
        "SNatTableId": {
          "Ref": "SNatTableId"
        },
        "SNatIp": {
          "Ref": "SNatIp"
        }
      }
    }
  },
  "Outputs": {
    "SNatEntryId": {
      "Description": "The id of created SNAT entry.",
      "Value": {
        "Fn::GetAtt": [
          "SNatTableEntry",
          "SNatEntryId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  SourceVSwitchId:
    Type: String
    Description: Allow which switch can access internet.
  SnatEntryName:
    Type: String
    Description: >-
      he name of the SNAT rule is 2-128 characters long and must start with a
      letter or Chinese, but cannot begin with HTTP:// or https://.
  SourceCIDR:
    Type: String
    Description: >-
      Specifies the network segment of the switch. For example, 10.0.0.1/24.
      This parameter and the SourceVSwtichId parameter are mutually exclusive
      and cannot appear at the same time.
  SNatTableId:
    Type: String
    Description: Create SNAT entry in specified SNAT table.
  SNatIp:
    Type: String
    Description: 'Source IP, must belongs to bandwidth package internet IP'
Resources:
  SNatTableEntry:
    Type: 'ALIYUN::ECS::SNatEntry'
    Properties:
      SourceVSwitchId:
        Ref: SourceVSwitchId
      SnatEntryName:
        Ref: SnatEntryName
      SourceCIDR:
        Ref: SourceCIDR
      SNatTableId:
        Ref: SNatTableId
      SNatIp:
        Ref: SNatIp
Outputs:
  SNatEntryId:
    Description: The id of created SNAT entry.
    Value:
      'Fn::GetAtt':
        - SNatTableEntry
        - SNatEntryId
```

27.25. ALIYUN::ECS::SecurityGroup

ALIYUN::ECS::SecurityGroup is used to create a security group.

Syntax

```
{
  "Type": "ALIYUN::ECS::SecurityGroup",
  "Properties": {
    "VpcId": String,
    "Description": String,
    "SecurityGroupName": String,
    "Tags": List,
    "SecurityGroupEgress": List,
    "SecurityGroupIngress": List,
    "ResourceGroupId": String,
    "SecurityGroupType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	No	The ID of the resource group to which the ECS instance belongs.	None
VpcId	String	No	No	The ID of the VPC.	None
Description	String	No	No	The description of the security group.	The description must be 2 to 256 characters in length.
Tags	List	No	Yes	The tags of the security group.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.
SecurityGroupName	String	No	No	The name of the security group.	The parameter is empty by default. • The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). • It must start with a letter and cannot start with `http://` or `https://`.
SecurityGroupEgress	List	No	Yes	The outbound access rules of the security group.	For more information, see the SecurityGroupEgress properties section in this topic.
SecurityGroupIngress	List	No	Yes	The inbound access rules of the security group.	For more information, see the SecurityGroupIngress properties section in this topic.
SecurityGroupType	String	No	No	The type of the security group.	Valid values: • normal: basic security group • enterprise: advanced security group

Tags syntax

```
"Tags": [
  {
    "Value" : String,
    "Key" : String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

SecurityGroupEgress syntax

```
"SecurityGroupEgress": [
  {
    "Description": String,
    "PortRange": String,
    "SecurityGroupId": String,
    "NicType": String,
    "Priority": Integer,
    "DestGroupId": String,
    "DestCidrIp": String,
    "Policy": String,
    "IpProtocol": String,
    "DestGroupOwnerId": String,
    "Ipv6DestCidrIp": String
  }
]
```

SecurityGroupEgress properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the security group rule.	The description must be 1 to 512 characters in length.
DestGroupOwnerId	String	No	No	The ID of the Alibaba Cloud account that manages the destination security group when you set a security group rule across accounts.	If you do not specify this parameter, the access permission is configured for another security group managed by your account. If you specify the DestCidrIp parameter, the DestGroupOwnerId parameter is ignored.
IpProtocol	String	Yes	No	The Internet protocol.	Valid values: • tcp • udp • icmp • gre • all

PortRange	String	Yes	No	The range of port numbers corresponding to the Internet protocol.	The range of destination ports corresponding to the transport layer protocol.
					• Valid values when IpProtocol is set to tcp or udp: 1 to 65535. Separate the starting and ending port numbers with a forward slash (/).
					  ○ Correct example: 1/200.
					  ○ Incorrect example: 200/1.
					• Set the value to -1/-1 when IpProtocol is set to icmp.
					• Set the value to -1/-1 when IpProtocol is set to gre.
					• Set the value to -1/-1 when IpProtocol is set to all.

SecurityGroupId	String	No	No	The ID of the security group for which you want to create an outbound rule.	None
NicType	String	No	No	The network type.	Default value: internet. Valid values: • internet • intranet

Property	Type	Required	Editable	Description	Constraint
Priority	Integer	No	No	The priority of the authorization policy.	Valid values: 1 to 100. Default value: 1.
DestGroupId	String	No	No	The ID of the destination security group within the same region.	You must specify at least one of the DestGroupId and DestCidrIp parameters. • If both parameters are specified, the system authorizes the destination CIDR block specified by the DestCidrIp parameter. • If the DestGroupId parameter is specified but the DestCidrIp parameter is not, you must set the NicType parameter to intranet.
DestCidrIp	String	No	No	The destination IPv4 CIDR block.	The value must be in the CIDR format. The default value is 0.0.0.0/0, which includes every possible IP address. Examples of other supported formats include 10.159.XX.XX/12. A maximum of 10 IP addresses or CIDR blocks can be specified. Separate multiple IP addresses or CIDR blocks with commas (,). **Note** Only IPv4 addresses are supported.
Policy	String	No	No	The authorization policy.	Default value: accept. Valid values: • accept: allows access. • drop: denies access.
Ipv6DestCidrIp	String	No	No	The destination IPv6 CIDR block.	IPv6 addresses in the CIDR format are supported. You can specify only the IP addresses of VPC-typed ECS instances.

SecurityGroupIngress syntax

```
"SecurityGroupIngress": [
  {
    "SourceGroupOwnerId": String,
    "Description": String,
    "PortRange": String,
    "SecurityGroupId": String,
    "NicType": String,
    "Ipv6SourceCidrIp": String,
    "Priority": Integer,
    "SourceGroupId": String,
    "Policy": String,
    "IpProtocol": String,
    "SourcePortRange": String,
    "SourceCidrIp": String
  }
]
```

SecurityGroupIngress properties

Property	Type	Required	Editable	Description	Constraint
SourceGroupOwnerId	String	No	No	The ID of the Alibaba Cloud account to which the source security group belongs.	None

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the security group rule.	The description must be 1 to 512 characters in length.
IpProtocol	String	Yes	No	The Internet protocol.	Valid values: • tcp • udp • icmp • gre • all

PortRange	String	Yes	No	The range of port numbers corresponding to the Internet protocol.	The range of destination ports corresponding to the transport layer protocol.
					• Valid values when IpProtocol is set to tcp or udp: 1 to 65535. Separate the starting and ending port numbers with a forward slash (/).
					  ○ Correct example: 1/200.
					  ○ Incorrect example: 200/1.
					• Set the value to -1/-1 when IpProtocol is set to icmp.
					• Set the value to -1/-1 when IpProtocol is set to gre.
					• Set the value to -1/-1 when IpProtocol is set to all.

SourceGroupId	String	No	No	The ID of the source security group within the same region.	You must specify at least one of the SourceGroupId and SourceCidrIp parameters. • If both parameters are specified, the system authorizes the source CIDR block specified by the SourceCidrIp parameter. • If the SourceGroupId parameter is specified but the SourceCidrIp parameter is not, you must set the NicType parameter to intranet.
SecurityGroupId	String	No	No	The ID of the security group for which you want to create an inbound rule.	None
NicType	String	No	No	The network type of the instance.	Default value: internet. Valid values: • internet • intranet
Priority	Integer	No	No	The priority of the authorization policy.	Valid values: 1 to 100. Default value: 1.
SourceCidrIp	String	No	No	The source IPv4 CIDR block.	The value must be in the CIDR format. The default value is 0.0.0.0/0, which includes all possible IP addresses. Examples of other supported formats include 10.159.XX.XX/12. A maximum of 10 IP addresses or CIDR blocks can be specified. Separate multiple IP addresses or CIDR blocks with commas (,). **Note** Only IPv4 CIDR blocks are supported.

Property	Type	Required	Editable	Description	Constraint
Policy	String	No	No	The authorization policy.	Default value: accept. Valid values: • accept: allows access. • drop: denies access.

SourcePortRange	String	No	No	The range of source port numbers corresponding to the transport layer protocol.	• Valid values when IpProtocol is set to tcp or udp: 1 to 65535. Separate the starting and ending port numbers with a forward slash (/).
					  ○ Correct example: 1/200.
					  ○ Incorrect example: 200/1.
					• Set the value to -1/-1 when IpProtocol is set to icmp.
					• Set the value to -1/-1 when IpProtocol is set to gre.
					• Set the value to -1/-1 when IpProtocol is set to all.

Ipv6SourceCidrIp	String	No	No	The source IPv6 CIDR block.	You can only specify the IP addresses of VPC-typed ECS instances. IPv6 addresses in the CIDR format are supported.

Response parameters

Fn::GetAtt

- SecurityGroupId: the ID of the security group.
- SecurityGroupName: the name of the security group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of the security group, [2, 256] characters. Do not fill or empty, the default is empty."
    },
    "VpcId": {
      "Type": "String",
      "Description": "Physical ID of the VPC."
    },
    "SecurityGroupName": {
      "Type": "String",
      "Description": "Display name of the security group, [2, 128] English or Chinese characters, must start with a letter or C
hinese in size, can contain numbers, '_' or '.', '-'"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "SecurityGroupType": {
      "Type": "String",
      "Description": "The type of the security group. Valid values:\nnormal: basic security group\nenterprise: advanced securit
y group",
      "AllowedValues": [
        "normal",
        "enterprise"
      ]
    },
    "SecurityGroupIngress": {
      "Type": "Json",
      "Description": "Ingress rules for the security group."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
```

```
    },
    "SecurityGroupEgress": {
      "Type": "Json",
      "Description": "egress rules for the security group."
    }
  },
  "Resources": {
    "SecurityGroup": {
      "Type": "ALIYUN::ECS::SecurityGroup",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "SecurityGroupName": {
          "Ref": "SecurityGroupName"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "SecurityGroupType": {
          "Ref": "SecurityGroupType"
        },
        "SecurityGroupIngress": {
          "Ref": "SecurityGroupIngress"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "SecurityGroupEgress": {
          "Ref": "SecurityGroupEgress"
        }
      }
    }
  },
  "Outputs": {
    "SecurityGroupName": {
      "Description": "The name of security group.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityGroup",
          "SecurityGroupName"
        ]
      }
    },
    "SecurityGroupId": {
      "Description": "generated security group id for security group.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityGroup",
          "SecurityGroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: Description of the security group, [2, 256] characters. Do not fill
      or empty, the default is empty.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  SecurityGroupEgress:
    Description: egress rules for the security group.
    Type: Json
  SecurityGroupIngress:
    Description: Ingress rules for the security group.
    Type: Json
  SecurityGroupName:
    Description: Display name of the security group, [2, 128] English or Chinese characters,
      must start with a letter or Chinese in size, can contain numbers, '_' or '.',
      '-'
    Type: String
  SecurityGroupType:
    AllowedValues:
    - normal
    - enterprise
    Description: 'The type of the security group. Valid values:
      normal: basic security group
      enterprise: advanced security group'
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VpcId:
    Description: Physical ID of the VPC.
    Type: String
Resources:
  SecurityGroup:
    Properties:
      Description:
        Ref: Description
      ResourceGroupId:
        Ref: ResourceGroupId
      SecurityGroupEgress:
        Ref: SecurityGroupEgress
      SecurityGroupIngress:
        Ref: SecurityGroupIngress
      SecurityGroupName:
        Ref: SecurityGroupName
      SecurityGroupType:
        Ref: SecurityGroupType
      Tags:
        Ref: Tags
      VpcId:
        Ref: VpcId
    Type: ALIYUN::ECS::SecurityGroup
Outputs:
  SecurityGroupId:
    Description: generated security group id for security group.
    Value:
      Fn::GetAtt:
      - SecurityGroup
      - SecurityGroupId
  SecurityGroupName:
    Description: The name of security group.
    Value:
      Fn::GetAtt:
      - SecurityGroup
      - SecurityGroupName
```

For more examples, visit JoinSecurityGroup.json and JoinSecurityGroup.yml. In the examples, the ALIYUN::ECS::SecurityGroup and ALIYUN::ECS::JoinSecurityGroup resource types are involved.

27.26. ALIYUN::ECS::SecurityGroupClone

ALIYUN::ECS::SecurityGroupClone is used to clone a security group.

Syntax

```
{
  "Type": "ALIYUN::ECS::SecurityGroupClone",
  "Properties": {
    "DestinationRegionId": String,
    "VpcId": String,
    "Description": String,
    "SecurityGroupName": String,
    "SourceSecurityGroupId": String,
    "ResourceGroupId": String,
    "NetworkType": String,
    "SecurityGroupType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the instance belongs.	None
SourceSecurityGroupId	String	Yes	No	The ID of the source security group.	Only applicable security group rules are copied to the new security group. The security group rules are selected based on the network type of the new security group.
NetworkType	String	No	No	The network type of the new security group.	Set the value to Classic.
VpcId	String	No	No	The ID of the VPC to which the new security group belongs.	The NetworkType parameter is ignored if both the VpcId and NetworkType parameters are specified.
Description	String	No	No	The description of the new security group.	The description must be 2 to 256 characters in length. It cannot start with http:// or https://.
SecurityGroupName	String	No	No	The name of the new security group.	This parameter is empty by default. The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with http:// or https://.
DestinationRegionId	String	No	No	The ID of the destination region where the new security group resides.	Default value: CURRENT.

Property	Type	Required	Editable	Description	Constraint
SecurityGroupType	String	No	No	The type of the new security group.	Valid values: normal and enterprise. A value of normal specifies a basic security group. A value of enterprise specifies an advanced security group.

Response parameters

Fn::GetAtt

SecurityGroupId: the ID of the new security group.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SecurityGroupClone": {
      "Type": "ALIYUN::ECS::SecurityGroupClone",
      "Properties": {
        "SourceSecurityGroupId": {
          "Ref": "SourceSecurityGroupId"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Description": {
          "Ref": "Description"
        },
        "SecurityGroupName": {
          "Ref": "SecurityGroupName"
        },
        "DestinationRegionId": {
          "Ref": "DestinationRegionId"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        }
      }
    }
  },
  "Parameters": {
    "SourceSecurityGroupId": {
      "Type": "String",
      "Description": "Source security group ID is used to copy properties to clone new security group. If the NetworkType and V
pcId is not specified, the same security group will be cloned. If NetworkType or VpcId is specified, only proper security group
rules will be cloned."
    },
    "VpcId": {
      "Type": "String",
      "Description": "Physical ID of the VPC."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the security group, [2, 256] characters. Do not fill or empty, the default is empty."
    },
    "SecurityGroupName": {
      "Type": "String",
      "Description": "Display name of the security group, [2, 128] English or Chinese characters, must start with a letter or C
hinese in size, can contain numbers, '_' or '.', '-'"
    },
    "DestinationRegionId": {
      "Default": "CURRENT",
      "Type": "String",
      "Description": "Clone security group to the specified region. Default to current region."
    },
    "NetworkType": {
      "Type": "String",
      "Description": "Clone new security group as classic network type. If the VpcId is specified, the value will be ignored.",
      "AllowedValues": [
        "Classic"
      ]
    }
  },
  "Outputs": {
    "SecurityGroupId": {
      "Description": "Generated security group id of new security group.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityGroupClone",
          "SecurityGroupId"
        ]
      }
    }
  }
}
```

27.27. ALIYUN::ECS::SecurityGroupIngress

ALIYUN::ECS::SecurityGroupIngress is used to create an inbound access rule for a security group.

Syntax

```
{
  "Type": "ALIYUN::ECS::SecurityGroupIngress",
  "Properties": {
    "SourceGroupOwnerId": String,
    "Description": String,
    "PortRange": String,
    "SecurityGroupId": String,
    "NicType": String,
    "Ipv6SourceCidrIp": String,
    "Priority": Integer,
    "SourceGroupId": String,
    "Policy": String,
    "IpProtocol": String,
    "SourcePortRange": String,
    "SourceCidrIp": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
IpProtocol	String	Yes	No	The Internet protocol.	Valid values: • tcp • udp • icmp • gre • all

Property	Type	Required	Editable	Description	Constraint
PortRange	String	Yes	No	The range of destination ports relevant to the transport layer protocol.	Valid values: • If TCP or UDP is used, specify the source ports from 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1. • When the IpProtocol parameter is set to icmp, the port number range is -1/-1. • When the IpProtocol parameter is set to gre, the port number range is -1/-1. • When the IpProtocol parameter is set to all, the port number range is -1/-1. For use cases of ports, see Typical applications of commonly used ports.
SourceGroupId	String	No	No	The ID of the source security group to which you want to grant access permissions.	You must specify at least one of the SourceGroupId and SourceCidrIp parameters. If the SourceGroupId parameter is specified, but the SourceCidrIp parameter is not, the NicType parameter must be set to intranet. If both the SourceGroupId and SourceCidrIp parameters are specified, the SourceCidrIp value is used by default.
SecurityGroupId	String	No	No	The ID of the security group for which you want to create the inbound access rule.	None

Property	Type	Required	Editable	Description	Constraint
NicType	String	No	No	The type of the NIC.	Default value: internet. Valid values: • internet • intranet If the DestGroupId parameter is specified, but the DestCidrIp parameter is not, this parameter must be set to intranet.
Priority	Integer	No	No	The priority of the security group rule.	Valid values: 1 to 100. Default value: 1.
SourceCidrIp	String	No	No	The source IPv4 CIDR block.	Only IPv4 CIDR blocks are supported.
Policy	String	No	No	The access control policy.	Default value: accept. Valid values: • accept: grants access. • drop: denies access.
SourceGroupOwnerId	String	No	No	The ID of the Alibaba Cloud account that manages the source security group when you set a security group rule across accounts.	If this parameter is not specified, the access permission is automatically configured for another security group managed by your account. If the SourceCidrIp parameter is specified, this parameter is ignored.
Description	String	No	Yes	The description of the security group rule.	The description must be 1 to 512 characters in length.

Property	Type	Required	Editable	Description	Constraint
SourcePortRange	String	No	No	The range of source ports relevant to the transport layer protocol.	Valid values: • If TCP or UDP is used, specify the source ports from 1 to 65535. Separate the starting port and the ending port with a forward slash (/). Correct example: 1/200. Incorrect example: 200/1. • When the IpProtocol parameter is set to icmp, the port number range is -1/-1. • When the IpProtocol parameter is set to gre, the port number range is -1/-1. • When the IpProtocol parameter is set to all, the port number range is -1/-1.
Ipv6SourceCidrIp	String	No	No	The range of source IPv6 addresses.	CIDR blocks and IPv6 addresses are supported. You can only specify the IP addresses of ECS instances in VPCs.

Response parameters

Fn::GetAtt

None.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SourceGroupId": {
      "Type": "String",
      "Description": "Source Group Id"
    },
    "Policy": {
      "Type": "String",
      "Description": "Authorization policies, parameter values can be: accept (accepted access), drop (denied access). Default value is accept.",
      "AllowedValues": [
        "accept",
        "drop"
      ]
    },
    "PortRange": {
      "Type": "String",
      "Description": "Ip protocol relative port range. For tcp and udp, the port rang is [1,65535], using format '1/200'For icmp|gre|all protocel, the port range should be '-1/-1'"
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the security group rule, [1, 512] characters. The default is empty.",
```

```
      "MinLength": 1,
      "MaxLength": 512
    },
    "SourcePortRange": {
      "Type": "String",
      "Description": "The range of the ports enabled by the source security group for the transport layer protocol. Valid value
s: TCP/UDP: Value range: 1 to 65535. The start port and the end port are separated by a slash (/). Correct example: 1/200. Inco
rrect example: 200/1.ICMP: -1/-1.GRE: -1/-1.ALL: -1/-1."
    },
    "Priority": {
      "Type": "Number",
      "Description": "Authorization policies priority range[1, 100]",
      "MinValue": 1,
      "MaxValue": 100,
      "Default": 1
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Id of the security group."
    },
    "SourceCidrIp": {
      "Type": "String",
      "Description": "Source CIDR Ip Address range. Only IPV4 supported."
    },
    "SourceGroupOwnerId": {
      "Type": "String",
      "Description": "Source Group Owner Account ID"
    },
    "IpProtocol": {
      "Type": "String",
      "Description": "Ip protocol for in rule.",
      "AllowedValues": [
        "tcp",
        "udp",
        "icmp",
        "gre",
        "all"
      ]
    },
    "Ipv6SourceCidrIp": {
      "Type": "String",
      "Description": "Source IPv6 CIDR address segment. Supports IP address ranges in CIDR format and IPv6 format.\nNote Only V
PC type IP addresses are supported."
    },
    "NicType": {
      "Type": "String",
      "Description": "Network type, could be 'internet' or 'intranet'. Default value is internet.",
      "AllowedValues": [
        "internet",
        "intranet"
      ]
    }
  },
  "Resources": {
    "SecurityGroupIngress": {
      "Type": "ALIYUN::ECS::SecurityGroupIngress",
      "Properties": {
        "SourceGroupId": {
          "Ref": "SourceGroupId"
        },
        "Policy": {
          "Ref": "Policy"
        },
        "PortRange": {
          "Ref": "PortRange"
        },
        "Description": {
          "Ref": "Description"
        },
        "SourcePortRange": {
          "Ref": "SourcePortRange"
        },
        "Priority": {
          "Ref": "Priority"
```

```
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "SourceCidrIp": {
          "Ref": "SourceCidrIp"
        },
        "SourceGroupOwnerId": {
          "Ref": "SourceGroupOwnerId"
        },
        "IpProtocol": {
          "Ref": "IpProtocol"
        },
        "Ipv6SourceCidrIp": {
          "Ref": "Ipv6SourceCidrIp"
        },
        "NicType": {
          "Ref": "NicType"
        }
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  SourceGroupId:
    Type: String
    Description: Source Group Id
  Policy:
    Type: String
    Description: >-
      Authorization policies, parameter values can be: accept (accepted access),
      drop (denied access). Default value is accept.
    AllowedValues:
      - accept
      - drop
  PortRange:
    Type: String
    Description: >-
      Ip protocol relative port range. For tcp and udp, the port rang is
      [1,65535], using format '1/200'For icmp|gre|all protocel, the port range
      should be '-1/-1'
  Description:
    Type: String
    Description: >-
      Description of the security group rule, [1, 512] characters. The default
      is empty.
    MinLength: 1
    MaxLength: 512
  SourcePortRange:
    Type: String
    Description: >-
      The range of the ports enabled by the source security group for the
      transport layer protocol. Valid values: TCP/UDP: Value range: 1 to 65535.
      The start port and the end port are separated by a slash (/). Correct
      example: 1/200. Incorrect example: 200/1.ICMP: -1/-1.GRE: -1/-1.ALL:
      -1/-1.
  Priority:
    Type: Number
    Description: 'Authorization policies priority range[1, 100]'
    MinValue: 1
    MaxValue: 100
    Default: 1
  SecurityGroupId:
    Type: String
    Description: Id of the security group.
  SourceCidrIp:
    Type: String
    Description: Source CIDR Ip Address range. Only IPV4 supported.
  SourceGroupOwnerId:
    Type: String
```

```
    Type: String
    Description: Source Group Owner Account ID
  IpProtocol:
    Type: String
    Description: Ip protocol for in rule.
    AllowedValues:
      - tcp
      - udp
      - icmp
      - gre
      - all
  Ipv6SourceCidrIp:
    Type: String
    Description: >-
      Source IPv6 CIDR address segment. Supports IP address ranges in CIDR
      format and IPv6 format.
      Note Only VPC type IP addresses are supported.
  NicType:
    Type: String
    Description: >-
      Network type, could be 'internet' or 'intranet'. Default value is
      internet.
    AllowedValues:
      - internet
      - intranet
Resources:
  SecurityGroupIngress:
    Type: 'ALIYUN::ECS::SecurityGroupIngress'
    Properties:
      SourceGroupId:
        Ref: SourceGroupId
      Policy:
        Ref: Policy
      PortRange:
        Ref: PortRange
      Description:
        Ref: Description
      SourcePortRange:
        Ref: SourcePortRange
      Priority:
        Ref: Priority
      SecurityGroupId:
        Ref: SecurityGroupId
      SourceCidrIp:
        Ref: SourceCidrIp
      SourceGroupOwnerId:
        Ref: SourceGroupOwnerId
      IpProtocol:
        Ref: IpProtocol
      Ipv6SourceCidrIp:
        Ref: Ipv6SourceCidrIp
      NicType:
        Ref: NicType
```

27.28. ALIYUN::ECS::Snapshot

ALIYUN::ECS::Snapshot is used to create a disk snapshot.

Syntax

```
{
  "Type": "ALIYUN::ECS::Snapshot",
  "Properties": {
    "SnapshotName": String,
    "Timeout": Integer,
    "Description": String,
    "DiskId": String,
    "Tags": List,
    "InstantAccess": Boolean,
    "InstantAccessRetentionDays": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DiskId	String	Yes	No	The ID of the disk for which you want to create the snapshot.	None
SnapshotName	String	No	No	The name of the snapshot.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`. The name cannot start with auto because a snapshot whose name starts with auto is recognized as an automatic snapshot.
Timeout	Integer	No	No	The timeout period of the snapshot creation task.	If this parameter is specified, the timeout period to create a stack is extended. If the snapshot is not created within the specified timeout period, the entire stack cannot be created. Set this parameter based on the disk size and data volume. Valid values: 200 to 1440. Default value: 200. Unit: minutes.
Description	String	No	No	The description of the snapshot.	The description must be 2 to 256 characters in length and cannot start with `http://` or `https://`. This parameter is empty by default.
Tags	List	No	Yes	The tags of the snapshot.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.
InstantAccess	Boolean	No	No	Specifies whether to enable the instant access feature.	Default value: false. Valid values: • true: The instant access feature is enabled. This feature can be enabled only for enhanced SSDs (ESSDs). • false: The instant access feature is disabled. If InstantAccess is set to false, normal snapshots are created.
InstantAccessRetentionDays	Integer	No	No	Specifies the retention period of the instant access feature. After the retention period ends, the snapshot is automatically released.	This parameter is valid only when InstantAccess is set to true. Valid values: 1 to 65535. Unit: days.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

SnapshotId: the ID of the snapshot.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstantAccess": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable the instant access feature. Valid values: \ntrue: enables the instant access feature. This feature can be enabled only for enhanced SSDs (ESSDs) \nfalse: disables the instant access feature. If InstantAccess is set to false, normal snapshots are created.\nDefault value: false.\nNote This parameter and the Category parameter cannot be specified at the same time. \nFor more information, see the \"Description\" section in this topic.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "The description of a snapshot can be 2 to 256 characters in length and cannot begin with http:// or https://. The description will appear on the console. By default, the value is zero."
    },
    "Timeout": {
      "Type": "Number",
      "Description": "The number of minutes to wait for create snapshot.",
      "MinValue": 200,
      "MaxValue": 1440,
      "Default": 200
    },
    "SnapshotName": {
      "Type": "String",
      "Description": "The name of the snapshot, [2, 128] English or Chinese characters. It must begin with an uppercase/lowercase letter or a Chinese character, and may contain numbers, '_' or '-'. It cannot begin with http:// or https://."
    },
    "InstantAccessRetentionDays": {
      "Type": "Number",
      "Description": "Specifies the retention period of the instant access feature. After the retention period ends, \nthe snapshot is automatically released. This parameter takes effect only when InstantAccess \nis set to true. Unit: days.\nValid values: 1 to 65535. By default, the value of \nthis parameter is the same as that of RetentionDays."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properties Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "DiskId": {
      "Type": "String",
      "Description": "Indicates the ID of the specified disk."
    }
  },
  "Resources": {
```

```
  "Resources": {
    "Snapshot": {
      "Type": "ALIYUN::ECS::Snapshot",
      "Properties": {
        "InstantAccess": {
          "Ref": "InstantAccess"
        },
        "Description": {
          "Ref": "Description"
        },
        "Timeout": {
          "Ref": "Timeout"
        },
        "SnapshotName": {
          "Ref": "SnapshotName"
        },
        "InstantAccessRetentionDays": {
          "Ref": "InstantAccessRetentionDays"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "DiskId": {
          "Ref": "DiskId"
        }
      }
    }
  },
  "Outputs": {
    "SnapshotId": {
      "Description": "The snapshot ID.",
      "Value": {
        "Fn::GetAtt": [
          "Snapshot",
          "SnapshotId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: The description of a snapshot can be 2 to 256 characters in length
      and cannot begin with http:// or https://. The description will appear on the
      console. By default, the value is zero.
    Type: String
  DiskId:
    Description: Indicates the ID of the specified disk.
    Type: String
  InstantAccess:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "Specifies whether to enable the instant access feature. Valid values:\
      \ \ntrue: enables the instant access feature. This feature can be enabled only\
      \ for enhanced SSDs (ESSDs) \nfalse: disables the instant access feature. If\
      \ InstantAccess is set to false, normal snapshots are created.\nDefault value:\
      \ false.\nNote This parameter and the Category parameter cannot be specified\
      \ at the same time. \nFor more information, see the \"Description\" section\
      \ in this topic."
    Type: Boolean
  InstantAccessRetentionDays:
    Description: "Specifies the retention period of the instant access feature. After\
      \ the retention period ends, \nthe snapshot is automatically released. This\
      \ parameter takes effect only when InstantAccess \nis set to true. Unit: days.\n\
      Valid values: 1 to 65535. By default, the value of \nthis parameter is the same\
      \ as that of RetentionDays."
    Type: Number
  SnapshotName:
    Description: The name of the snapshot, [2, 128] English or Chinese characters.
      It must begin with an uppercase/lowercase letter or a Chinese character, and
      may contain numbers, '_' or '-'. It cannot begin with http:// or https://.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  Timeout:
    Default: 200
    Description: The number of minutes to wait for create snapshot.
    MaxValue: 1440
    MinValue: 200
    Type: Number
Resources:
  Snapshot:
    Properties:
      Description:
        Ref: Description
      DiskId:
        Ref: DiskId
      InstantAccess:
        Ref: InstantAccess
      InstantAccessRetentionDays:
        Ref: InstantAccessRetentionDays
      SnapshotName:
        Ref: SnapshotName
      Tags:
        Ref: Tags
      Timeout:
        Ref: Timeout
    Type: ALIYUN::ECS::Snapshot
Outputs:
  SnapshotId:
    Description: The snapshot ID.
    Value:
      Fn::GetAtt:
      - Snapshot
      - SnapshotId
```

For more examples, visit DiskAttachment.json and DiskAttachment.yml. In the examples, the ALIYUN::ECS::DiskAttachment and ALIYUN::ECS::Snapshot resource types are involved.

27.29. ALIYUN::ECS::SSHKeyPair

ALIYUN::ECS::SSHKeyPair is used to create an SSH key pair or import an existing SSH key pair to access an Elastic Compute Service (ECS) instance.

Syntax

```
{
  "Type": "ALIYUN::ECS::SSHKeyPair",
  "Properties": {
    "ResourceGroupId": String,
    "KeyPairName": String,
    "PublicKeyBody": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the ECS instance belongs.	None
KeyPairName	String	Yes	No	The name of the key pair.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
PublicKeyBody	String	No	No	The public key of the key pair.	This parameter is required only when you import an SSH key pair.
Tags	List	No	Yes	The tags of the key pair.	A maximum of 20 tags can be specified. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- KeyPairFingerPrint: the fingerprint of the key pair. The fingerprint uses the message-digest algorithm 5 (MD5) based on the public key

fingerprint format defined in RFC 4716.

- PrivateKeyBody: the private key of the key pair. An unencrypted RSA private key must be encoded in the PKCS#8 format by using PEM. The private key of a key pair can be obtained only when the key pair is first created. If you import an existing public key, no private key information is available.
- KeyPairName: the name of the key pair.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "KeyPairName": {
      "Type": "String",
      "Description": "SSH key pair name. It must be unique. [2, 128] characters. All character sets are supported. Do not start
with a special character, digit, http://, or https://. It can contain digits, \".\", \"_\", or \"-\"."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "PublicKeyBody": {
      "Type": "String",
      "Description": "SSH Public key. If PublicKeyBody is specified, existed public key body will be imported instead of creati
ng new SSH key pair."
    }
  },
  "Resources": {
    "SSHKeyPair": {
      "Type": "ALIYUN::ECS::SSHKeyPair",
      "Properties": {
        "KeyPairName": {
          "Ref": "KeyPairName"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "PublicKeyBody": {
          "Ref": "PublicKeyBody"
        }
      }
    }
  },
  "Outputs": {
    "KeyPairFingerPrint": {
      "Description": "The fingerprint of the key pair. The public key fingerprint format defined in RFC4716: MD5 message digest
algorithm.",
      "Value": {
        "Fn::GetAtt": [
          "SSHKeyPair",
          "KeyPairFingerPrint"
        ]
      }
    },
    "KeyPairName": {
      "Description": "SSH Key pair name.",
      "Value": {
        "Fn::GetAtt": [
          "SSHKeyPair",
          "KeyPairName"
        ]
      }
    },
    "PrivateKeyBody": {
```

```
      "Description": "The private key of the key pair. Content of the RSA private key in the PKCS#8 format of the unencrypted P
EM encoding. Refer to: https://www.openssl.org/docs/apps/pkcs8.html.User only can get the private key one time when and only wh
en SSH key pair is created.",
      "Value": {
        "Fn::GetAtt": [
          "SSHKeyPair",
          "PrivateKeyBody"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  KeyPairName:
    Description: SSH key pair name. It must be unique. [2, 128] characters. All character
      sets are supported. Do not start with a special character, digit, http://, or
      https://. It can contain digits, ".", "_", or "-".
    Type: String
  PublicKeyBody:
    Description: SSH Public key. If PublicKeyBody is specified, existed public key
      body will be imported instead of creating new SSH key pair.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  SSHKeyPair:
    Properties:
      KeyPairName:
        Ref: KeyPairName
      PublicKeyBody:
        Ref: PublicKeyBody
      ResourceGroupId:
        Ref: ResourceGroupId
      Tags:
        Ref: Tags
    Type: ALIYUN::ECS::SSHKeyPair
Outputs:
  KeyPairFingerPrint:
    Description: 'The fingerprint of the key pair. The public key fingerprint format
      defined in RFC4716: MD5 message digest algorithm.'
    Value:
      Fn::GetAtt:
      - SSHKeyPair
      - KeyPairFingerPrint
  KeyPairName:
    Description: SSH Key pair name.
    Value:
      Fn::GetAtt:
      - SSHKeyPair
      - KeyPairName
  PrivateKeyBody:
    Description: 'The private key of the key pair. Content of the RSA private key
      in the PKCS#8 format of the unencrypted PEM encoding. Refer to: https://www.openssl.org/docs/apps/pkcs8.html.User
      only can get the private key one time when and only when SSH key pair is created.'
    Value:
      Fn::GetAtt:
      - SSHKeyPair
      - PrivateKeyBody
```

For more examples, visit Instance.json and Instance.yml. In the examples, the ALIYUN::ECS::Instance, ALIYUN::ECS::SSHKeyPair, and ALIYUN::ECS::SSHKeyPairAttachment resource types are involved.

27.30. ALIYUN::ECS::SSHKeyPairAttachment

ALIYUN::ECS::SSHKeyPairAttachment is used to attach an SSH key pair to specified ECS instances.

Syntax

```
{
  "Type": "ALIYUN::ECS::SSHKeyPairAttachment",
  "Properties": {
    "InstanceIds": List,
    "KeyPairName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceIds	List	Yes	Yes	The IDs of the ECS instances to which the SSH key pair is attached.	Separate IDs with commas (,). Only Linux instances are supported.
KeyPairName	String	Yes	No	The name of the SSH key pair.	None

Response parameters

Fn::GetAtt

None.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SSHKeyPairAttachment": {
      "Type": "ALIYUN::ECS::SSHKeyPairAttachment",
      "Properties": {
        "KeyPairName": "ssh_key_pai****",
        "InstanceIds": [
          'i-2zeiofnh20hj8fej****',
          'i-2zebt3kfvxm28y9o****'
        ]
      }
    }
  }
}
```

27.31. ALIYUN::ECS::VPC

ALIYUN::ECS::VPC is used to create a virtual private cloud (VPC).

Syntax

```
{
  "Type": "ALIYUN::ECS::VPC",
  "Properties": {
    "Description": String,
    "Tags": List,
    "Ipv6CidrBlock": String,
    "EnableIpv6": Boolean,
    "ResourceGroupId": String,
    "VpcName": String,
    "CidrBlock": String,
    "Ipv6Isp": String,
    "UserCidr": String,
    "SecondaryCidrBlock": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group.	None.
VpcName	String	No	Yes	The name of the VPC.	The name must be 2 to 128 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
CidrBlock	String	No	Yes	The CIDR block of the VPC.	Valid values: • 10.0.0.0/8 • 172.16.0.0/12 • 192.168.0.0/16 and its subnets
Description	String	No	Yes	The description of the VPC.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
Ipv6CidrBlock	String	No	No	The IPv6 CIDR block of the VPC.	None.
EnableIpv6	Boolean	No	Yes	Specifies whether to enable IPv6 CIDR blocks.	Default value: false. Valid values: • true: enables IPv6 CIDR blocks. • false: does not enable IPv6 CIDR blocks.
Tags	List	No	Yes	The tags of the VPC.	You can specify up to 20 tags. For more information, see Tags propertes.
Ipv6Isp	String	No	No	The type of the IPv6 CIDR block of the VPC.	• Set the value to BGP, which specifies Alibaba Cloud Border Gateway Protocol (BGP) IPv6. This is the default value.
UserCidr	String	No	No	The user CIDR block.	You can specify up to three CIDR blocks. Separate multiple CIDR blocks with commas (,). **Note** For more information about user CIDR blocks, see FAQ about CIDR blocks.
SecondaryCidrBlock	String	No	No	The secondary IPv4 CIDR block.	Valid values: • 10.0.0.0/8 • 172.16.0.0/12 • 192.168.0.0/16 and its subnets When you add a secondary IPv4 CIDR block, take note of the following items: • The CIDR block cannot start with 0. • The CIDR block cannot be the same as the value of the CidrBlock property. • The subnet mask must be 8 to 24 bits in length.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags propertes

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- VpcId: the ID of the VPC.
- VRouterId: the ID of the VRouter.
- RouteTableId: the ID of the route table.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Ipv6Isp": {
      "Type": "String",
      "Description": "The Internet service provider (ISP) for IPv6 addresses of the VPC. Valid values:\nBGP(default): Alibaba C
loud BGP IPv6\nChinaMobile: China Mobile (single line)\nChinaUnicom: China Unicom (single line)\nChinaTelecom: China Telecom (s
ingle line)\nNote If your Alibaba Cloud account is allowed to activate single-ISP bandwidth, you can set the parameter to China
Telecom, ChinaUnicom, and ChinaMobile."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the vpc, [2, 256] characters. Do not fill or empty, the default is empty."
    },
    "SecondaryCidrBlock": {
      "Type": "String",
      "Description": "The secondary IPv4 CIDR block. \nYou can specify one of the following standard IPv4 CIDR blocks or their
\nsubnets as the secondary IPv4 CIDR block: 192.168.0.0/16, 172.16.0.0/12, \nand 10.0.0.0/8.To use a public CIDR block as the s
econdary IPv4 CIDR block, \nsubmit a ticket. When you add a secondary IPv4 CIDR block, take note of \nthe following rules: \n1.
The CIDR block cannot start with 0. \n2. The subnet mask must be 8 to 24 bits in length.\nThe secondary CIDR block cannot overl
ap with the primary \nCIDR block or an existing secondary CIDR block."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "CidrBlock": {
      "Type": "String",
      "Description": "The IP address range of the VPC in the CIDR block form. You can use the following IP address ranges and t
heir subnets:\n10.0.0.0/8\n172.16.0.0/12 (Default)\n192.168.0.0/16"
    },
    "VpcName": {
      "Type": "String",
      "Description": "Display name of the vpc instance, [2, 128] English or Chinese characters, must start with a letter or Chi
nese in size, can contain numbers, '_' or '.', '-'"
    },
    "Ipv6CidrBlock": {
      "Type": "String",
      "Description": "IPv6 network cidr of the VPC.",
      "MinLength": 1
```

```
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to vpc. Max support 20 tags to add during create vpc. Each tag with two properties Key and
Value, and Key is required.",
      "MaxLength": 20
    },
    "EnableIpv6": {
      "Type": "Boolean",
      "Description": "Whether to enable an IPv6 network cidr, the value is:False (default): not turned on.True: On.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "UserCidr": {
      "Type": "String",
      "Description": "The user CIDR block. Separate multiple CIDR blocks with commas (,). At most three CIDR blocks are support
ed."
    }
  },
  "Resources": {
    "Vpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "Ipv6Isp": {
          "Ref": "Ipv6Isp"
        },
        "Description": {
          "Ref": "Description"
        },
        "SecondaryCidrBlock": {
          "Ref": "SecondaryCidrBlock"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "CidrBlock": {
          "Ref": "CidrBlock"
        },
        "VpcName": {
          "Ref": "VpcName"
        },
        "Ipv6CidrBlock": {
          "Ref": "Ipv6CidrBlock"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "EnableIpv6": {
          "Ref": "EnableIpv6"
        },
        "UserCidr": {
          "Ref": "UserCidr"
        }
      }
    }
  },
  "Outputs": {
    "VRouterId": {
      "Description": "Router id of created VPC.",
      "Value": {
        "Fn::GetAtt": [
          "Vpc",
          "VRouterId"
        ]
      }
    },
    "RouteTableId": {
      "Description": "The router table id of created VPC.",
      "Value": {
```

```
        "Fn::GetAtt": [
          "Vpc",
          "RouteTableId"
        ]
      }
    },
    "VpcId": {
      "Description": "Id of created VPC.",
      "Value": {
        "Fn::GetAtt": [
          "Vpc",
          "VpcId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CidrBlock:
    Description: 'The IP address range of the VPC in the CIDR block form. You can
      use the following IP address ranges and their subnets:
      10.0.0.0/8
      172.16.0.0/12 (Default)
      192.168.0.0/16'
    Type: String
  Description:
    Description: Description of the vpc, [2, 256] characters. Do not fill or empty,
      the default is empty.
    Type: String
  EnableIpv6:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to enable an IPv6 network cidr, the value is:False (default):
      not turned on.True: On.'
    Type: Boolean
  Ipv6CidrBlock:
    Description: IPv6 network cidr of the VPC.
    MinLength: 1
    Type: String
  Ipv6Isp:
    Description: 'The Internet service provider (ISP) for IPv6 addresses of the VPC.
      Valid values:
      BGP(default): Alibaba Cloud BGP IPv6
      ChinaMobile: China Mobile (single line)
      ChinaUnicom: China Unicom (single line)
      ChinaTelecom: China Telecom (single line)
      Note If your Alibaba Cloud account is allowed to activate single-ISP bandwidth,
      you can set the parameter to ChinaTelecom, ChinaUnicom, and ChinaMobile.'
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  SecondaryCidrBlock:
    Description: "The secondary IPv4 CIDR block. \nYou can specify one of the following\
      \ standard IPv4 CIDR blocks or their \nsubnets as the secondary IPv4 CIDR block:\
      \ 192.168.0.0/16, 172.16.0.0/12, \nand 10.0.0.0/8.To use a public CIDR block\
      \ as the secondary IPv4 CIDR block, \nsubmit a ticket. When you add a secondary\
      \ IPv4 CIDR block, take note of \nthe following rules: \n1. The CIDR block cannot\
      \ start with 0. \n2. The subnet mask must be 8 to 24 bits in length.\nThe secondary\
      \ CIDR block cannot overlap with the primary \nCIDR block or an existing secondary\
      \ CIDR block."
    Type: String
  Tags:
    Description: Tags to attach to vpc. Max support 20 tags to add during create vpc.
      Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
```

```
    MaxLength: 20
    Type: Json
  UserCidr:
    Description: The user CIDR block. Separate multiple CIDR blocks with commas (,).
      At most three CIDR blocks are supported.
    Type: String
  VpcName:
    Description: Display name of the vpc instance, [2, 128] English or Chinese characters,
      must start with a letter or Chinese in size, can contain numbers, '_' or '.',
      '-'
    Type: String
Resources:
  Vpc:
    Properties:
      CidrBlock:
        Ref: CidrBlock
      Description:
        Ref: Description
      EnableIpv6:
        Ref: EnableIpv6
      Ipv6CidrBlock:
        Ref: Ipv6CidrBlock
      Ipv6Isp:
        Ref: Ipv6Isp
      ResourceGroupId:
        Ref: ResourceGroupId
      SecondaryCidrBlock:
        Ref: SecondaryCidrBlock
      Tags:
        Ref: Tags
      UserCidr:
        Ref: UserCidr
      VpcName:
        Ref: VpcName
    Type: ALIYUN::ECS::VPC
Outputs:
  RouteTableId:
    Description: The router table id of created VPC.
    Value:
      Fn::GetAtt:
      - Vpc
      - RouteTableId
  VRouterId:
    Description: Router id of created VPC.
    Value:
      Fn::GetAtt:
      - Vpc
      - VRouterId
  VpcId:
    Description: Id of created VPC.
    Value:
      Fn::GetAtt:
      - Vpc
      - VpcId
```

To view more examples, visit SnatEntry.json and SnatEntry.yml. In the examples, the ALIYUN::ECS::VPC, ALIYUN::ECS::VSwitch, ALIYUN::VPC::SnatEntry, ALIYUN::VPC::CommonBandwidthPackage, ALIYUN::VPC::CommonBandwidthPackageIp, ALIYUN::VPC::Ipv6Gateway, and ALIYUN::VPC::Ipv6InternetBandwidth resource types are involved.

27.32. ALIYUN::ECS::VSwitch

ALIYUN::ECS::VSwitch is used to create a vSwitch.

Syntax

```
{
  "Type": "ALIYUN::ECS::VSwitch",
  "Properties": {
    "VSwitchName": String,
    "VpcId": String,
    "Description": String,
    "Tags": List,
    "Ipv6CidrBlock": Integer,
    "ZoneId": String,
    "CidrBlock": String,
    "VpcIpv6CidrBlock": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
`VpcId`	String	Yes	No	The ID of the virtual private cloud (VPC) in which you create the vSwitch.	None.
`ZoneId`	String	Yes	No	The ID of the zone.	None.
`VSwitchName`	String	No	Yes	The name of the vSwitch.	The name must be 2 to 128 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
`CidrBlock`	String	Yes	No	The CIDR block of the vSwitch.	The CIDR block of a vSwitch must be a subset of the CIDR block of the VPC to which the vSwitch belongs and cannot be used by other vSwitches.
`Description`	String	No	Yes	The description of the vSwitch.	The description must be 2 to 256 characters in length. The description cannot start with `http://` or `https://`.
`Ipv6CidrBlock`	Integer	No	No	The IPv6 CIDR block of the vSwitch.	Valid values: 0 to 255. The value must be a decimal integer. By default, the mask of the IPv6 CIDR block of the vSwitch is 64 bits in length. You can specify a custom content for the last eight bits of the mask of the IPv6 CIDR block of the VPC.
`Tags`	List	No	Yes	The tags.	You can specify up to 20 tags. For more information, see Tags properties.
`VpcIpv6CidrBlock`	String	No	No	The IPv6 CIDR block of the VPC.	None.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
`Key`	String	Yes	No	The tag key.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The key cannot start with `aliyun` or `acs:`.
`Value`	String	No	No	The tag value.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The value cannot start with `aliyun` or `acs:`.

Return values

Fn::GetAtt

- CidrBlock: the CIDR block of the vSwitch.
- Ipv6CidrBlock: the IPv6 CIDR block of the vSwitch.
- VSwitchId: the ID of the vSwitch.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VSwitchZoneId": {
      "AssociationProperty": "ALIYUN::ECS::Instance:ZoneId",
      "Type": "String",
      "Description": "The ID of the zone",
      "Label": {
        "en": "VSwitch Availability Zone"
      }
    }
  },
  "Resources": {
    "EcsVSwitch": {
      "Type": "ALIYUN::ECS::VSwitch",
      "Properties": {
        "VpcId": {
          "Ref": "EcsVpc"
        },
        "ZoneId": {
          "Ref": "VSwitchZoneId"
        },
        "CidrBlock": "192.168.0.0/24"
      }
    },
    "EcsVpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": "192.168.0.0/16",
        "VpcName": {
          "Fn::Join": [
            "-",
            [
              "StackId",
              {
                "Ref": "ALIYUN::StackId"
              }
            ]
          ]
        }
      }
    }
  },
  "Outputs": {
  }
}
```

To view more examples, visit SnatEntry.json and SnatEntry.yml. In the examples, the ALIYUN::ECS::VPC, ALIYUN::ECS::VSwitch, ALIYUN::VPC::SnatEntry, ALIYUN::VPC::CommonBandwidthPackage, ALIYUN::VPC::CommonBandwidthPackageIp, ALIYUN::VPC::Ipv6Gateway, and ALIYUN::VPC::Ipv6InternetBandwidth resource types are used.

27.33. DATASOURCE::ECS::DiskCategories

DATASOURCE::ECS::DiskCategories is used to query the type and the category of a disk.

Syntax

```
{
  "Type": "DATASOURCE::ECS::DiskCategories",
  "Properties": {
    "Type": String,
    "ZoneId": String,
    "DataDiskCategory": String,
    "InstanceType": String,
    "SystemDiskCategory": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	Yes	The type of the disk that you want to query.	Valid values: • system: system disk • data: data disk
ZoneId	String	Yes	Yes	The ID of the zone.	None.
DataDiskCategory	String	No	Yes	The category of the data disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • ephemeral_ssd: local SSD • cloud_essd: enhanced SSD (ESSD) **Note** This property takes effect when you set the Type property to data.
InstanceType	String	No	Yes	The type of the Elastic Compute Service (ECS) instance.	For more information, see Instance family and DescribeInstanceTypes.
SystemDiskCategory	String	No	Yes	The category of the system disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • ephemeral_ssd: local SSD • cloud_essd: ESSD **Note** This property takes effect when you set the Type property to system.

Return values (Fn::GetAtt)

Property	Type	Description	Constraint

Property	Type	Description	Constraint
DiskCategoryIds	List	The disk categories.	Example: `["cloud_ssd", "cloud_essd", "cloud_efficiency"]` .
DiskCategories	List	The details of the disk.	The details include the type and the category of the disk.
Type	String	The type of the disk.	Valid values: • system: system disk • data: data disk
DiskCategory	String	The category of the disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • ephemeral_ssd: local SSD • cloud_essd: ESSD

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Type": {
      "Type": "String",
      "Description": "The resource type to query.\nIf you set Type to data,you can specify the InstanceType parameter to disk.\
nIf you set Type to system, you must specify the InstanceType parameter.\nValid values:\nsystem: system disk\ndata: data disk",
      "AllowedValues": [
        "system",
        "data"
      ]
    },
    "ZoneId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::Instance::ZoneId",
      "Description": "The ID of the zone for which to query resources."
    },
    "DataDiskCategory": {
      "Type": "String",
      "Description": "The category of the data disk. Valid values: \ncloud: basic disk\ncloud_efficiency: ultra disk\ncloud_ssd
: standard SSD\nephemeral_ssd: local SSD\ncloud_essd: ESSD",
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd",
        "ephemeral_ssd",
        "cloud_essd"
      ]
    },
    "SystemDiskCategory": {
      "Type": "String",
      "Description": "The category of the system disk. Valid values: \ncloud: basic disk\ncloud_efficiency: ultra disk\ncloud_s
sd: standard SSD\nephemeral_ssd: local SSD\ncloud_essd: ESSD",
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd",
        "ephemeral_ssd",
        "cloud_essd"
      ]
    }
  },
  "Resources": {
    "ExtensionDataSource": {
      "Type": "DATASOURCE::ECS::DiskCategories",
      "Properties": {
        "Type": {
          "Ref": "Type"
        },
```

```
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "DataDiskCategory": {
          "Ref": "DataDiskCategory"
        },
        "SystemDiskCategory": {
          "Ref": "SystemDiskCategory"
        }
      }
    }
  },
  "Outputs": {
    "DiskCategoryIds": {
      "Description": "The list of disk category IDs.",
      "Value": {
        "Fn::GetAtt": [
          "ExtensionDataSource",
          "DiskCategoryIds"
        ]
      }
    },
    "DiskCategories": {
      "Description": "The list of disk categories.",
      "Value": {
        "Fn::GetAtt": [
          "ExtensionDataSource",
          "DiskCategories"
        ]
      }
    }
  }
}
```

27.34. DATASOURCE::ECS::Images

DATASOURCE::ECS::Images is used to query available images.

Syntax

```
{
  "Type": "DATASOURCE::ECS::Images",
  "Properties": {
    "Status": String,
    "ImageOwnerAlias": String,
    "Usage": String,
    "ActionType": String,
    "ResourceGroupId": String,
    "Architecture": String,
    "ImageFamily": String,
    "IsSupportIoOptimized": Boolean,
    "IsSupportCloudinit": Boolean,
    "ImageName": String,
    "SnapshotId": String,
    "IsPublic": String,
    "OSType": String,
    "ImageId": String,
    "InstanceType": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Status	String	No	Yes	The status of the image.	Default value: Available. Valid values: • Available: The image is available. • Creating: The image is being created. • Waiting: The image is waiting to be processed. • Unavailable: The image is unavailable. • CreateFailed: The image fails to be created. • Deprecated: The image is discontinued. **Note** You can specify multiple values for this property. Separate multiple values with commas (,).
ImageOwnerAlias	String	No	Yes	The source of the image.	Valid values: • system: a public image provided by Alibaba Cloud. • self: a custom image that you create. • others: a shared image from other Alibaba Cloud accounts. • marketplace: an image in Alibaba Cloud Marketplace. If Alibaba Cloud Marketplace images are found, you can use the images. You do not need to subscribe to the images before you use the images. Before you use Alibaba Cloud Marketplace images, take note of the billing details of the images. **Note** If you do not specify this property, the results that match the system, self, and others are returned.
Usage	String	No	Yes	Specifies whether the image is running on an Elastic Compute Service (ECS) instance.	Valid values: • instance: The image is running on and is used by an ECS instance. • none: The image is idle and is not used by an ECS instance.
ActionType	String	No	Yes	The scenario in which you want to use the image.	Default value: CreateEcs. Valid values: • CreateEcs: You want to use the image to create an instance. • ChangeOS: You want to use the image to change the system disk or the OS.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the custom image belongs.	When you specify this property to query resources, the number of resources that are contained in the specified resource group cannot exceed 1,000. **Note** This property takes effect when you set the ImageOwnerAlias property to self.
Architecture	String	No	Yes	The architecture of the image.	Valid values: • i386 • x86_64 • arm64

Property	Type	Required	Editable	Description	Constraint
ImageFamily	String	No	Yes	The name of the image family. You can use this property to query images of the specified image family.	None.
IsSupportIoOptimized	Boolean	No	Yes	Specifies whether the image can run on an I/O optimized instance.	Valid values: • true • false
IsSupportCloudinit	Boolean	No	Yes	Specifies whether the image supports cloud-init.	Valid values: • true • false
ImageName	String	No	Yes	The name of the image.	You can use the wild character (`*`) to query image names. Example: centos_8_5*.
SnapshotId	String	No	Yes	The ID of the snapshot that is used by the custom image.	None.
IsPublic	String	No	Yes	Specifies whether the image that you want to query is a published community image.	Default value: false. Valid values: • true: a published community image. If you set this property to true, set the ImageOwnerAlias property to others. • false: a different type of image. The image types that you can query are determined by the value of the ImageOwnerAlias property.
OSType	String	No	Yes	The OS of the image.	Valid values: • windows • linux
ImageId	String	No	Yes	The ID of the image.	None.
InstanceType	String	No	Yes	The type of the instance for which the image is used.	None.
Tags	List	No	Yes	The tags of the image.	You can specify up to 20 tags. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Value	String	No	No	The tag value of the image.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The value cannot start with `aliyun` or `acs:`.
Key	String	Yes	No	The tag key of the image.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The key cannot start with `aliyun` or `acs:`.

Return values (Fn::GetAtt)

Property	Type	Description	Constraint
ImageIds	List	The IDs of the images.	Example: `['centos_8_5_x64_20G_alibase_20211228.vhd']`.
Images	List	The details of the images.	None.
Status	String	The status of the image.	Valid values: • Available: The image is available. • Creating: The image is being created. • Waiting: The image is waiting to be processed. • Unavailable: The image is unavailable. • CreateFailed: The image fails to be created. • Deprecated: The image is discontinued.
ImageFamily	String	The name of the image family.	None.
Progress	String	The progress of the operation that is performed on the image.	Unit: percentage.
IsCopied	Boolean	Indicates whether the image is a copy of another image.	Valid values: • true • false
IsSupportIoOptimized	Boolean	Indicates whether the image can run on an I/O optimized instance.	Valid values: • true • false
ImageOwnerAlias	String	The source of the image.	Valid values: • system: a public image provided by Alibaba Cloud. • self: a custom image that you create. • others: a shared image from other Alibaba Cloud accounts. • marketplace: an image in Alibaba Cloud Marketplace. If Alibaba Cloud Marketplace images are found, you can use the images. You do not need to subscribe to the images before you use the images. Before you use Alibaba Cloud Marketplace images, take note of the billing details of the images.
IsSupportCloudinit	Boolean	Indicates whether cloud-init is supported by the image.	Valid values: • true • false
ImageVersion	String	The version of the image.	None.
Usage	String	Indicates whether the image is running on an ECS instance.	Valid values: • instance: The image is running on and is used by an ECS instance. • none: The image is idle and is not used by an ECS instance.

Property	Type	Description	Constraint
IsSelfShared	String	Indicates whether the custom image is shared with other Alibaba Cloud accounts.	Valid values: • true • false
Description	String	The description of the image.	None.
Size	Integer	The size of the image.	Unit: GiB.
ResourceGroupId	String	The ID of the resource group to which the image belongs.	Example: `rg-bp67acfmxazb4p****` .
Platform	String	The OS.	Example: `Windows Server 2016` .
OSNameEn	String	The display name of the OS.	Example: `Windows Server 2016 Data Center Edition 64bit Chinese Edition` .
ImageName	String	The name of the image.	None.
OSName	String	None.	`None.`
ImageId	String	The ID of the image.	Example: `m-bp1g7004ksh0oeuc****` .
OSType	String	The OS type of the image.	Valid values: • windows • linux
IsSubscribed	Boolean	Indicates whether the terms of the image service that corresponds to the product code are accepted.	Valid values: • true • false
ProductCode	String	The product code of the Alibaba Cloud Marketplace image.	None.
Architecture	String	The architecture of the image.	Valid values: • i386 • x86_64 • arm64
DiskDeviceMappings	List	The mappings between disks and snapshots in the image.	None.
Tags	List	The tags of the image.	None.
IsPublic	Boolean	Indicates whether the image that is queried is a published community image.	Valid values: • true • false
ImageOwnerId	String	The ID of the Alibaba Cloud account to which the image belongs.	This property is returned only when shared images are queried.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ImageName": {
      "Type": "String",
      "Default": "CentOS*"
    }
  },
  "Resources": {
    "Images": {
      "Type": "DATASOURCE::ECS::Images",
      "Properties": {
        "ImageName": {
          "Ref": "ImageName"
        }
      }
    }
  },
  "Outputs": {
    "ImageIds": {
      "Value": {
        "Ref": "Images"
      }
    }
  }
}
```

27.35. DATASOURCE::ECS::RecommendInstanceTypes

DATASOURCE::ECS::RecommendInstanceTypes is used to query the recommended types of Elastic Compute Service (ECS) instances.

Syntax

```
{
  "Type": "DATASOURCE::ECS::RecommendInstanceTypes",
  "Properties": {
    "ZoneMatchMode": String,
    "IoOptimized": String,
    "ZoneId": String,
    "InstanceChargeType": String,
    "Memory": Number,
    "Scene": String,
    "SystemDiskCategory": String,
    "Cores": Integer,
    "PriorityStrategy": String,
    "InstanceFamilyLevel": String,
    "MaxPrice": Number,
    "InstanceType": String,
    "InstanceTypeFamilies": List,
    "SpotStrategy": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ZoneMatchMode	String	No	Yes	Specifies whether to recommend instance types that are available only in the specified zone.	Valid values: • Strict: recommends instance types that are available only in the specified zone. • Include: recommends instance types that are available in other zones within the same region as the specified zone. **Note** If you specify the ZoneId property, the default value of the ZoneMatchMode property is Strict.
IoOptimized	String	No	Yes	Specifies whether the instance is an I/O optimized instance.	Default value: optimized. Valid values: • optimized: an I/O optimized instance • none: a non-I/O optimized instance **Note** If you query retired instance types, the default value of the IoOptimized property is none.
ZoneId	String	No	Yes	The ID of the zone.	You can call the DescribeZones operation to query zones.
InstanceChargeType	String	No	Yes	The billing method of the instance.	Default value: PostPaid. Valid values: • PrePaid: subscription • PostPaid: pay-as-you-go
Memory	Number	No	Yes	The memory size of the instance.	Unit: GiB. If you specify the Cores and Memory properties, the system returns all instance types that match the values of both properties.
Scene	String	No	Yes	The scenario in which you want to use the instance type.	Default value: CREATE. Valid values: • UPGRADE: You want to upgrade or downgrade instance types. • CREATE: You want to create instances.
SystemDiskCategory	String	No	Yes	The category of the system disk.	Valid values: • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: enhanced SSD (ESSD) • cloud: basic disk **Note** For non-I/O optimized instances, the default value of the SystemDiskCategory property is cloud. For I/O optimized instances, the default value of the SystemDiskCategory property is cloud_efficiency.
Cores	Integer	No	Yes	The number of vCPUs of the instance.	If you specify the Cores and Memory properties, the system returns all instance types that match the values of both properties.

Property	Type	Required	Editable	Description	Constraint
PriorityStrategy	String	No	Yes	The policy based on which the system recommends the instance type.	Default value: InventoryFirst. Valid values: • InventoryFirst: recommends the most sufficient instance type in the inventory. • PriceFirst: recommends the most cost-effective instance type. Recommended instance types appear based on the hourly prices of vCPUs in ascending order. • NewProductFirst: recommends the latest instance type.
InstanceFamilyLevel	String	No	Yes	The level of the instance family.	Valid values: • EntryLevel. • EnterpriseLevel. • CreditEntryLevel. For more information, see Overview.
MaxPrice	Number	No	Yes	The maximum hourly price for a pay-as-you-go instance or preemptible instance.	This property takes effect when you set the SpotStrategy property to SpotWithPriceLimit.
InstanceType	String	No	No	The instance type.	For more information, see Instance family and DescribeInstanceTypes. Note You cannot specify the InstanceType property and the Cores or Memory property at the same time.
InstanceTypeFamilies	List	No	Yes	The instance families.	You can call the DescribeInstanceTypeFamilies operation to query instance families.
SpotStrategy	String	No	Yes	The bidding policy for the preemptible instance.	Default value: NoSpot. Valid values: • NoSpot: The instance is created as a regular pay-as-you-go instance. • SpotWithPriceLimit: The instance is created as a preemptible instance for which you specify the maximum hourly price. • SpotAsPriceGo: The instance is created as a preemptible instance whose price is based on the market price at the time of purchase. The market price can be equal to the price of a pay-as-you-go instance. Note This property takes effect when you set the InstanceChargeType property to Postpaid.

Return values (Fn::GetAtt)

Property	Type	Description	Constraint
InstanceTypeIds	List	The instance types.	None.
InstanceTypes	List	The details of the instance types.	None.

Property	Type	Description	Constraint
CommodityCode	String	The commodity code of the instance type.	None.
ZoneId	String	The ID of the zone in which the instance type is available.	None.
Priority	Integer	The priority based on which the system sorts the instance types.	None.
NetworkType	String	The network type of the instance.	Valid values: • classic: classic network • vpc: virtual private cloud (VPC)
Scene	String	The scenario in which the instance type is used.	None.
SpotStrategy	String	The bidding policy for the preemptible instance.	None.
InstanceChargeType	String	The billing method of the instance.	None.
InstanceType	String	The instance type.	None.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Cores": {
      "Type": "String",
      "Description": "The number of vCPUs of the instance.\nNote If the Cores and Memory parameters are both specified, all ins
tance types that offer the vCPUs and memory size specified by the parameters are matched.",
      "Default": 1
    },
    "Memory": {
      "Type": "String",
      "Description": "The memory size of the instance. Unit: GiB.\nNote If the Cores and Memory parameters are both specified,
all instance types that offer the vCPUs and memory size specified by the parameters are matched.",
      "Default": 1
    }
  },
  "Resources": {
    "RecommendInstanceTypes": {
      "Type": "DATASOURCE::ECS::RecommendInstanceTypes",
      "Properties": {
        "Cores": 1,
        "Memory": 1
      }
    }
  },
  "Outputs": {
    "RecommendInstanceTypes": {
      "Value": {
        "Ref": "RecommendInstanceTypes"
      }
    }
  }
}
```

28.EDAS

28.1. ALIYUN::EDAS::Application

ALIYUN::EDAS::Application is used to create an ECS Application.

Syntax

```
{
  "Type": "ALIYUN::EDAS::Application",
  "Properties": {
    "ApplicationName": String,
    "HealthCheckURL": String,
    "Description": String,
    "ClusterId": String,
    "PackageType": String,
    "BuildPackId": Integer,
    "EcuInfo": String,
    "ComponentIds": String,
    "LogicalRegionId": String
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
ApplicationName	String	Yes	Yes	The name of the application that ingests the stream.	The description must start with a letter and can contain numbers, English letters, and hyphen (-). And underscore (_), the description must be 1 to 36 characters in length.
HealthCheckURL	String	No	No	Health Check URL	N/A
Description	String	No	Yes	The description of the response	N/A
ClusterId	String	Yes	No	You can call this operation to create an application in an ECS cluster with a specified cluster ID. If you do not specify a cluster ID, the application will be created in the default ECS cluster.	N/A
PackageType	String	No	No	Application Package format	Valid values: • War • jar
BuildPackId	Integer	No	No	EDAS-Container build package number. You can use the container version list interface ListBuildPack or according Release notes for EDAS Container in **build package serial number** query EDAS-Container build package number.	You must specify this parameter when creating an HSF application.

Parameter	Data type	Required	Editable	Description	Constraint
EcuInfo	String	No	No	ecu_id of the machine to be added (the unique ID of the ECS instance imported to EDAS in EDAS)	Separate multiple ecu_id's with commas (,). You can use ListScaleOutEcu interface to query ecu_id.
ComponentIds	String	No	No	The ID of the application component. **Note** To set this parameter, update the Java or Python SDK to 2.57.3 or later. If you do not use the EDAS SDK, you can set the parameter. For example, you can set this parameter when using SDKs such as aliyun-python-sdk-core, aliyun-java-sdk-core, and aliyun cli.	If the application runtime environment is Apache Tomcat (for Dubbo applications in the war package format) or standard Java applications (for Spring Boot and Spring Cloud applications in the jar package format), the runtime environment must be specified. The following table lists the IDs of common application components. • 4:Apache Tomcat 7.0.91 • 7:Apache Tomcat 8.5.42 • 5:OpenJDK 1.8.x • 6:OpenJDK 1.7.x
LogicalRegionId	String	No	No	The ID of the namespace. Valid values: `cn-beijing:prod`.	• If the specified cluster does not have a default namespace, you need to specify this parameter. Otherwise, an error message appears. `application regionId is different with cluster regionId!`. • In the default namespace, you do not need to specify this parameter. This parameter must be consistent with the namespace where the specified cluster ID is located. To log on to the EDAS console, Select **application Management> namespace** to find the namespace ID corresponding to the namespace.

Error code

Fn::GetAtt

- Port: The Port number of the created application. Default value: 8080.
- AppId: The ID of the application, which is the unique identifier of the EDAS application.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Application": {
      "Type": "ALIYUN::EDAS::Application",
      "Properties": {
        "ApplicationName": {
          "Ref": "ApplicationName"
        },
        "HealthCheckURL": {
          "Ref": "HealthCheckURL"
        },
        "Description": {
          "Ref": "Description"
        },
        "ClusterId": {
          "Ref": "ClusterId"
        },
        "PackageType": {
          "Ref": "PackageType"
        },
        "BuildPackId": {
          "Ref": "BuildPackId"
        },
        "EcuInfo": {
          "Ref": "EcuInfo"
        },
        "ComponentIds": {
          "Ref": "ComponentIds"
        },
        "LogicalRegionId": {
          "Ref": "LogicalRegionId"
        }
      }
    }
  },
  "Parameters": {
    "ApplicationName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "The application name (only allow the use of numbers, letters, -, _, up to 36 characters)",
      "MaxLength": 36
    },
    "HealthCheckURL": {
      "Type": "String",
      "Description": "Application Health Check URL"
    },
    "Description": {
      "Type": "String",
      "Description": "Descriptive information"
    },
    "ClusterId": {
      "Type": "String",
      "Description": "Cluster ID of ECS application"
    },
    "PackageType": {
      "Default": "war",
      "Type": "String",
      "Description": "Application packet format, possible values: war or jar",
      "AllowedValues": [
        "war",
        "jar"
      ]
    },
    "BuildPackId": {
      "Type": "Number",
      "Description": "EDAS-Container construct a packet number (available version list acquired through the ListBuildPack API (
ConfigId of response) or \"container version\" table \"Building packet number\" column acquisition). When creating HSF applicat
ion, this parameter must be specified
    },
```

```
    "EcuInfo": {
      "Type": "String",
      "Description": "Machine capacity is needed ecu_id (ECS Examples introducing another unique identity EDAS EDAS), the plura
lity of \",\" separated (by querying ListScaleOutEcu wherein ecu_id\nInterface to obtain)."
    },
    "ComponentIds": {
      "Type": "String",
      "Description": "Application component ID (available through the query interface to obtain a list of components to the int
erface ListComponents), when creating the application runtime environment using Apache Tomcat (war packet format Dubbo\nApplica
tion required) or standard Java application (jar package format Spring Boot / Spring Cloud applications require) you need to sp
ecify when the operating environment. Commonly used application component ID and meaning:\n4 represents Apache Tomcat 7.0.91,7
represented Apache Tomcat 8.5.42,5 represented OpenJDK 1.8.x, 6 represents OpenJDK\n1.7.x"
    },
    "LogicalRegionId": {
      "Type": "String",
      "Description": "Namespace ID"
    }
  },
  "Outputs": {
    "Port": {
      "Description": "Application port",
      "Value": {
        "Fn::GetAtt": [
          "Application",
          "Port"
        ]
      }
    },
    "AppId": {
      "Description": "Application Id, a unique identifier EDAS application",
      "Value": {
        "Fn::GetAtt": [
          "Application",
          "AppId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Application:
    Type: 'ALIYUN::EDAS::Application'
    Properties:
      ApplicationName:
        Ref: ApplicationName
      HealthCheckURL:
        Ref: HealthCheckURL
      Description:
        Ref: Description
      ClusterId:
        Ref: ClusterId
      PackageType:
        Ref: PackageType
      BuildPackId:
        Ref: BuildPackId
      EcuInfo:
        Ref: EcuInfo
      ComponentIds:
        Ref: ComponentIds
      LogicalRegionId:
        Ref: LogicalRegionId
Parameters:
  ApplicationName:
    MinLength: 1
    Type: String
    Description: >-
      The application name (only allow the use of numbers, letters, -, _, up to
      36 characters)
    MaxLength: 36
  HealthCheckURL:
```

```
    Type: String
    Description: Application Health Check URL
  Description:
    Type: String
    Description: Descriptive information
  ClusterId:
    Type: String
    Description: Cluster ID of ECS application
  PackageType:
    Default: war
    Type: String
    Description: 'Application packet format, possible values: war or jar'
    AllowedValues:
      -war
      -jar
  BuildPackId:
    Type: Number
    Description: >-
      EDAS-Container construct a packet number (available version list acquired
      through the ListBuildPack API (ConfigId of response) or "container
      version" table "Building packet number" column acquisition). When creating
      HSF application, this parameter must be specified
  EcuInfo:
    Type: String
    Description: >-
      Machine capacity is needed ecu_id (ECS Examples introducing another unique
      identity EDAS EDAS), the plurality of "," separated (by querying
      ListScaleOutEcu wherein ecu_id
      Interface to obtain).
  ComponentIds:
    Type: String
    Description: >-
      Application component ID (available through the query interface to obtain
      a list of components to the interface ListComponents), when creating the
      application runtime environment using Apache Tomcat (war packet format
      Dubbo
      Application required) or standard Java application (jar package format
      Spring Boot / Spring Cloud applications require) you need to specify when
      the operating environment. Commonly used application component ID and
      meaning:
      4 represents Apache Tomcat 7.0.91,7 represented Apache Tomcat 8.5.42, and 5
      represented OpenJDK 1.8.x, 6 represents OpenJDK
      1.7.x
  LogicalRegionId:
    Type: String
    Description: Namespace ID
Outputs:
  Port:
    Description: Application port
    Value:
      'Fn::GetAtt':
        -Application
        -Port
  AppId:
    Description: 'Application Id, a unique identifier EDAS application'
    Value:
      'Fn::GetAtt':
        -Application
        -AppId
```

28.2. ALIYUN::EDAS::Cluster

ALIYUN::MSE::Cluster is used to create a cluster.

Syntax

```
{
  "Type": "ALIYUN::EDAS::Cluster",
  "Properties": {
    "VpcId": String,
    "NetworkMode": Integer,
    "LogicalRegionId": String,
    "ClusterName": String,
    "ClusterType": Integer,
    "OversoldFactor": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	No	No	The VPC ID of the instance.	This parameter is required when the NetworkMode parameter is set to 2.
NetworkMode	Integer	Yes	No	The network type of the cluster.	Valid values: • 1: classic network • 2: VPC
LogicalRegionId	String	No	No	The region ID of the custom namespace.	The region ID is in the format of `physical region:custom namespace identifier`. Example: `cn-beijing:prod`.
ClusterName	String	Yes	No	The name of the cluster.	The name must be 1 to 64 characters in length and can contain letters, digits, underscores (_), periods (.).
ClusterType	Integer	Yes	No	The type of the cluster.	Valid values: • 1: Swarm cluster • 2: ECS cluster • 3: Kubernetes cluster
OversoldFactor	Integer	No	No	The CPU overselling factor of the created cluster with Docker installed.	Valid values: • 2 (1/2) • 4 (1/4) • 8 (1/8)

Response parameters

Fn::GetAtt

- ClusterName: the name of the cluster.
- IaasProvider: the service provider
- ClusterId: the ID of the cluster.
- ClusterType: the type of the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Cluster": {
      "Type": "ALIYUN::EDAS::Cluster",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        },
        "NetworkMode": {
          "Ref": "NetworkMode"
        },
        "LogicalRegionId": {
          "Ref": "LogicalRegionId"
```

```
        },
        "ClusterName": {
          "Ref": "ClusterName"
        },
        "ClusterType": {
          "Ref": "ClusterType"
        },
        "OversoldFactor": {
          "Ref": "OversoldFactor"
        }
      }
    }
  },
  "Parameters": {
    "VpcId": {
      "Type": "String",
      "Description": "VPC network ID. If network selection VPC, this parameter Required"
    },
    "NetworkMode": {
      "Type": "Number",
      "Description": "Network Type. 1- classic network, 2-VPC"
    },
    "LogicalRegionId": {
      "Type": "String",
      "Description": "Custom namespace RegionId (format: Physical Region: custom namespace identifier)"
    },
    "ClusterName": {
      "Type": "String",
      "Description": "Cluster name"
    },
    "ClusterType": {
      "Type": "Number",
      "Description": "Cluster type. 1-Swarm cluster, 2-ECS cluster, 3-Kubernetes Cluster"
    },
    "OversoldFactor": {
      "Type": "Number",
      "Description": "Docker CPU cluster oversold. Support 2 (1: 2 ratio) / 4 (1: 4) / 8 (1: 8 ratio)",
      "AllowedValues": [
        2,
        4,
        8
      ]
    }
  },
  "Outputs": {
    "ClusterName": {
      "Description": "Cluster name",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "ClusterName"
        ]
      }
    },
    "IaasProvider": {
      "Description": "Provider",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "IaasProvider"
        ]
      }
    },
    "ClusterId": {
      "Description": "Cluster ID",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "ClusterId"
        ]
      }
    },
    "ClusterType": {
      "Description": "Cluster type",
```

```
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "ClusterType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Cluster:
    Type: 'ALIYUN::EDAS::Cluster'
    Properties:
      VpcId:
        Ref: VpcId
      NetworkMode:
        Ref: NetworkMode
      LogicalRegionId:
        Ref: LogicalRegionId
      ClusterName:
        Ref: ClusterName
      ClusterType:
        Ref: ClusterType
      OversoldFactor:
        Ref: OversoldFactor
Parameters:
  VpcId:
    Type: String
    Description: 'VPC network ID. If network selection VPC, this parameter Required'
  NetworkMode:
    Type: Number
    Description: 'Network Type. 1- classic network, 2-VPC'
  LogicalRegionId:
    Type: String
    Description: >-
      Custom namespace RegionId (format: Physical Region: custom namespace
      identifier)
  ClusterName:
    Type: String
    Description: Cluster name
  ClusterType:
    Type: Number
    Description: 'Cluster type. 1-Swarm cluster, 2-ECS cluster, 3-Kubernetes Cluster'
  OversoldFactor:
    Type: Number
    Description: >-
      Docker CPU cluster oversold. Support 2 (1: 2 ratio) / 4 (1: 4) / 8 (1: 8
      ratio)
    AllowedValues:
      - 2
      - 4
      - 8
Outputs:
  ClusterName:
    Description: Cluster name
    Value:
      'Fn::GetAtt':
        - Cluster
        - ClusterName
  IaasProvider:
    Description: Provider
    Value:
      'Fn::GetAtt':
        - Cluster
        - IaasProvider
  ClusterId:
    Description: Cluster ID
    Value:
      'Fn::GetAtt':
        - Cluster
        - ClusterId
  ClusterType:
    Description: Cluster type
    Value:
      'Fn::GetAtt':
        - Cluster
        - ClusterType
```

28.3. ALIYUN::EDAS::ClusterMember

ALIYUN::EDAS::ClusterMember is used to add an ECS instance to a cluster.

Syntax

```
{
  "Type": "ALIYUN::EDAS::ClusterMember",
  "Properties": {
    "Password": String,
    "ClusterId": String,
    "InstanceIds": List
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
Password	String	Yes	No	ECS password	N/A
ClusterId	String	Yes	No	The ID of the Kubernetes cluster where Virtual Kubelet is to be deployed.	N/A
InstanceIds	List	Yes	No	The IDs of ECS instances. Separate multiple ECS instances with commas (,).	N/A

Error code

Fn::GetAtt

- ClusterMemberIds: The machine ID of the cluster.
- ClusterId: The ID of the cluster.
- InstanceIds: The IDs of the ECS instances.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ClusterMember": {
      "Type": "ALIYUN::EDAS::ClusterMember",
      "Properties": {
        "Password": {
          "Ref": "Password"
        },
        "ClusterId": {
          "Ref": "ClusterId"
        },
        "InstanceIds": {
          "Ref": "InstanceIds"
        }
      }
    }
  },
  "Parameters": {
    "Password": {
      "Type": "String",
      "Description": "Password ECS hosts need to import (ECS settings can continue to use purchased)"
    },
    "ClusterId": {
      "Type": "String",
      "Description": "Cluster ID to import ECS instance"
    },
    "InstanceIds": {
      "MinLength": 1,
      "Type": "Json",
      "Description": "ECS instance ID list to import."
    }
  },
  "Outputs": {
    "ClusterMemberIds": {
      "Description": "Cluster member IDs corresponding to the ECS instance IDs.",
      "Value": {
        "Fn::GetAtt": [
          "ClusterMember",
          "ClusterMemberIds"
        ]
      }
    },
    "ClusterId": {
      "Description": "Cluster ID.",
      "Value": {
        "Fn::GetAtt": [
          "ClusterMember",
          "ClusterId"
        ]
      }
    },
    "InstanceIds": {
      "Description": "ECS instance IDs.",
      "Value": {
        "Fn::GetAtt": [
          "ClusterMember",
          "InstanceIds"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  ClusterMember:
    Type: 'ALIYUN::EDAS::ClusterMember'
    Properties:
      Password:
        Ref: Password
      ClusterId:
        Ref: ClusterId
      InstanceIds:
        Ref: InstanceIds
Parameters:
  Password:
    Type: String
    Description: >-
      Password ECS hosts need to import (ECS settings can continue to use
      purchased)
  ClusterId:
    Type: String
    Description: 'Cluster ID to import ECS instance'
  InstanceIds:
    MinLength: 1
    Type: Json
    Description: ECS instance ID list to import.
Outputs:
  ClusterMemberIds:
    Description: Cluster member IDs corresponding to the ECS instance IDs.
    Value:
      'Fn::GetAtt':
        -ClusterMember
        -ClusterMemberIds
  ClusterId:
    Description: Cluster ID.
    Value:
      'Fn::GetAtt':
        -ClusterMember
        - ClusterId
  InstanceIds:
    Description: ECS instance IDs.
    Value:
      'Fn::GetAtt':
        -ClusterMember
        - InstanceIds
```

28.4. ALIYUN::EDAS::DeployGroup

ALIYUN::EDAS::DeployGroup is used to create a group.

Syntax

```
{
  "Type": "ALIYUN::EDAS::DeployGroup",
  "Properties": {
    "GroupName": String,
    "AppId": String
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
GroupName	String	Yes	No	Whitelist Name	It must be 1 to 64 characters in length.
AppId	String	Yes	No	The ID of the application.	N/A

Error code

Fn::GetAtt

- GroupName: The name of the group.
- Id: The ID of the group.
- AppId: The ID of the application.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DeployGroup": {
      "Type": "ALIYUN::EDAS::DeployGroup",
      "Properties": {
        "GroupName": {
          "Ref": "GroupName"
        },
        "AppId": {
          "Ref": "AppId"
        }
      }
    }
  },
  "Parameters": {
    "GroupName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Group name, maximum length of 64.",
      "MaxLength": 64
    },
    "AppId": {
      "Type": "String",
      "Description": "Application ID"
    }
  },
  "Outputs": {
    "GroupName": {
      "Description": "Deploy group name",
      "Value": {
        "Fn::GetAtt": [
          "DeployGroup",
          "GroupName"
        ]
      }
    },
    "Id": {
      "Description": "Deploy group ID",
      "Value": {
        "Fn::GetAtt": [
          "DeployGroup",
          "Id"
        ]
      }
    },
    "AppId": {
      "Description": "Application ID",
      "Value": {
        "Fn::GetAtt": [
          "DeployGroup",
          "AppId"
        ]
      }
    }
  }
}
```

`YAML` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DeployGroup": {
      "Type": "ALIYUN::EDAS::DeployGroup",
      "Properties": {
        "GroupName": {
          "Ref": "GroupName"
        },
        "AppId": {
          "Ref": "AppId"
        }
      }
    }
  },
  "Parameters": {
    "GroupName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Group name, maximum length of 64.",
      "MaxLength": 64
    },
    "AppId": {
      "Type": "String",
      "Description": "Application ID"
    }
  },
  "Outputs": {
    "GroupName": {
      "Description": "Deploy group name",
      "Value": {
        "Fn::GetAtt": [
          "DeployGroup",
          "GroupName"
        ]
      }
    },
    "Id": {
      "Description": "Deploy group ID",
      "Value": {
        "Fn::GetAtt": [
          "DeployGroup",
          "Id"
        ]
      }
    },
    "AppId": {
      "Description": "Application ID",
      "Value": {
        "Fn::GetAtt": [
          "DeployGroup",
          "AppId"
        ]
      }
    }
  }
}
```

28.5. ALIYUN::EDAS::K8sApplication

ALIYUN::EDAS::K8sApplication is used to create an application in a Kubernetes cluster.

Syntax

```
{
  "Type": "ALIYUN::EDAS::K8sApplication",
  "Properties": {
    "LogicalRegionId": String,
    "NasId": String,
    "Liveness": Map,
    "IntranetSlbId": String,
    "WebContainer": String,
    "LimitCpu": Integer,
    "SlsConfigs": List,
    "IntranetSlbProtocol": String,
    "PackageVersion": String,
    "WebContainerConfig": Map,
    "AppName": String,
    "JDK": String,
    "InternetSlbId": String,
    "PreStop": Map,
    "Readiness": Map,
    "InternetSlbPort": Integer,
    "DeployAcrossNodes": Boolean,
    "RequestsMem": Integer,
    "PackageType": String,
    "UseBodyEncoding": Boolean,
    "JavaStartUpConfig": Map,
    "IsMultilingualApp": Boolean,
    "RequestsCpu": Integer,
    "CommandArgs": List,
    "StorageType": String,
    "ClusterId": String,
    "Timeout": Integer,
    "Envs": List,
    "ImageUrl": String,
    "DeployAcrossZones": Boolean,
    "PostStart": Map,
    "InternetTargetPort": Integer,
    "Replicas": Integer,
    "Namespace": String,
    "ApplicationDescription": String,
    "UriEncoding": String,
    "IntranetTargetPort": Integer,
    "MountDescs": List,
    "LocalVolume": List,
    "RuntimeClassName": String,
    "Command": String,
    "InternetSlbProtocol": String,
    "EdasContainerVersion": String,
    "PackageUrl": String,
    "IntranetSlbPort": Integer,
    "RepoId": String,
    "EnableAhas": Boolean,
    "LimitMem": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LogicalRegionId	String	No	No	The ID of the Enterprise Distributed Application Service (EDAS) namespace.	You must set this property for non-default namespaces.

Property	Type	Required	Editable	Description	Constraint
NasId	String	No	No	The ID of the Apsara File Storage NAS file system that is mounted to the container in which the application is running. The NAS file system must be in the same region as the cluster.	The NAS file system must have an available mount target, or have a mount target on the vSwitch in the virtual private cloud (VPC) in which the application is located. If you do not set this property but you set the MountDescs property, a NAS file system is automatically purchased and mounted to the vSwitch in the VPC.
Liveness	Map	No	No	The script that is used to check whether the container is alive.	Set the property in the `{"failureThreshold":3,"initialDelaySeconds":5,"successThreshold":1,"timeoutSeconds":1,"tcpSocket":{"host":"","port":8080}}` format. If you set this property to `""` or `{}`, the configurations are deleted. If you leave this property empty, the property is ignored. For more information, see Liveness properties.
IntranetSlbId	String	No	No	The ID of the internal-facing Server Load Balancer (SLB) instance.	If you do not set this property, EDAS purchases a new SLB instance for you.
WebContainer	String	No	No	The version of the Tomcat container on which the deployment package of the application depends.	This property is supported for Spring Cloud and Apache Dubbo applications that are deployed by using WAR packages. This property is not supported if you use an image to deploy the application.
LimitCpu	Integer	No	No	The maximum number of vCPUs allowed for each application instance when the application is running.	None
SlsConfigs	List	No	No	The Logstore configurations.	If you set this property to `""` or `"{}"`, the configurations are deleted. For more information, see SlsConfigs properties.
IntranetSlbProtocol	String	No	No	The protocol of the internal-facing SLB instance.	Valid values: • TCP • HTTP • HTTPS
PackageVersion	String	No	No	The version of the deployment package.	You must set this property if the PackageType property is set to War or FatJar. The version of EDAS POP API SDK for Java or Python must be 2.44.0 or later.

Property	Type	Required	Editable	Description	Constraint
WebContainerConfig	Map	No	No	The Tomcat container configurations.	If you set this property to `""` or `"{}"`, the configurations are deleted. For more information, see WebContainerConfig properties.
AppName	String	Yes	No	The name of the application.	The name can be up to 36 characters in length and can contain digits, letters, and hyphens (-). The name must start with a letter.
JDK	String	No	No	The version of the Java development kit (JDK) on which the deployment package of the application depends.	Valid values: • Open JDK 7 • Open JDK 8 This property is not supported if you use an image to deploy the application.
InternetSlbId	String	No	No	The ID of the Internet-facing SLB instance.	If you do not set this property, EDAS purchases a new SLB instance for you.
PreStop	Map	No	No	The pre-stop script.	Set the property in the `{"tcpSocket":{"host":"","port":8080}}` format. If you set this property to `""` or `{}`, the configurations are deleted. If you leave this property empty, the property is ignored. For more information, see PreStop properties.
Readiness	Map	No	No	The script that is used to check the service status of the container for the application.	For more information, see Readiness properties.
InternetSlbPort	Integer	No	No	The frontend port of the Internet-facing SLB instance.	Valid values: 1 to 65535.
DeployAcrossNodes	Boolean	No	No	Specifies whether to distribute application instances to multiple nodes.	Valid values: • true • false
RequestsMem	Integer	No	No	The maximum size of memory allowed for each application instance when the application is created.	Unit: MB. 0 specifies that there is no upper limit on memory size.
PackageType	String	No	No	The type of the application deployment package.	Valid values: • FatJar • WAR • Image
UseBodyEncoding	Boolean	No	No	Specifies whether to use encoding configured for the request body when the URL is decoded.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
JavaStartUpConfig	Map	No	No	The configurations of startup parameters for a Java application.	If you set this property to `""` or `"{}"`, the configurations are deleted. For more information, see JavaStartUpConfig properties.
IsMultilingualApp	Boolean	No	No	Specifies whether the application is a multi-language application.	Default value: false. Valid values: • true • false
RequestsCpu	Integer	No	No	The maximum number of vCPUs allowed for each application instance when the application is created.	None 0 specifies that there is no upper limit on the number of vCPUs.
CommandArgs	List	No	No	The collection of command arguments.	An example of the value is `[{"argument":"-c"}, {"argument":"test"}]]`, in which `-c` and `test` are two arguments that can be specified. For more information, see CommandArgs properties.
StorageType	String	No	No	The type of the storage.	Set the value to SSD.
ClusterId	String	Yes	No	The ID of the cluster.	You can call the ListCluster API operation to query the ID of the cluster.
Timeout	Integer	No	No	The timeout interval of the change process.	Unit: seconds.
Envs	List	No	No	The collection of deployment environment variables.	Set the property in the `[{"Name":"x","Value":"y"}, {"Name":"x2","Value":"y2"}]` format. For more information, see Envs properties.
ImageUrl	String	No	No	The URL of the image.	You must set this property if the PackageType property is set to Image.
DeployAcrossZones	Boolean	No	No	Specifies whether to distribute application instances across zones.	Valid values: • true • false
PostStart	Map	No	No	The post-start script.	Set the property in the `{"Exec": {"Command": ["ls", "/"]}}` format. If you set this property to `""` or `{}`, the configurations are deleted. If you leave this property empty, the property is ignored. For more information, see PostStart properties.
InternetTargetPort	Integer	No	No	The backend port of the Internet-facing SLB instance, which is also the service port of the application.	Valid values: 1 to 65535.

Property	Type	Required	Editable	Description	Constraint
Replicas	Integer	No	No	The number of application instances.	Default value: 1.
Namespace	String	No	No	The namespace of the Kubernetes cluster in which the application is deployed.	Default value: default.
ApplicationDescription	String	No	Yes	The description of the application.	None
UriEncoding	String	No	No	The Uniform Resource Identifier (URI) encoding scheme.	Valid values: • ISO-8859-1 • GBK • GB2312 • UTF-8 **Note** If you do not set this property in the application configurations, the default URI encoding scheme in the Tomcat container is applied.
IntranetTargetPort	Integer	No	No	The backend port of the internal-facing SLB instance, which is also the service port of the application.	Valid values: 1 to 65535.
MountDescs	List	No	No	The description of the NAS mounting configurations.	Set the property in the `[{"NasPath": "/k8s","MountPath": "/mnt"}, {"NasPath": "/files", "MountPath": "/app/files"}]` format. The `NasPath` property specifies the file storage path, and the `MountPath` property specifies the path to mount the file system to the container on which the application is running. For more information, see MountDescs properties.
LocalVolume	List	No	No	The configurations that are used when the host files are mounted to the container on which the application is running.	Set the property in the `[{"type":"", "nodePath":"/localfiles", "mountPath":"/app/files"}, {"type":"Directory", "nodePath":"/mnt", "mountPath":"/app/storage"}]` format. The `nodePath` property specifies the host path, the `mountPath` property specifies the path in the container, and the `type` property specifies the file system type to be mounted. For more information, see LocalVolume properties.
RuntimeClassName	String	No	No	The type of the container runtime.	This property is applicable only to clusters that run sandboxed containers.

Property	Type	Required	Editable	Description	Constraint
Command	String	No	No	The command that you want to run.	If you set this property, this property replaces the startup command in the image when the image is started.
InternetSlbProtocol	String	No	No	The protocol of the Internet-facing SLB instance.	Valid values: • TCP • HTTP • HTTPS
EdasContainerVersion	String	No	No	The version of the EDAS container on which the deployment package of the application depends.	This property is not supported if you use an image to deploy the application.
PackageUrl	String	No	No	The URL of the deployment package.	This property is required if you use a FatJar or WAR package to deploy the application. **Note** The version of SDK for Java or Python must be 2.44.0 or later.
IntranetSlbPort	Integer	No	No	The frontend port of the internal-facing SLB instance.	Valid values: 1 to 65535.
RepoId	String	No	No	The ID of the image repository.	None
EnableAhas	Boolean	No	No	Specifies whether to enable access to Application High Availability Service (AHAS).	Default value: false. Valid values: • true • false
LimitMem	Integer	No	No	The maximum size of memory allowed for each application instance when the application is running.	Unit: MB.

Liveness syntax

```
"Liveness": {
  "TimeoutSeconds": Integer,
  "Exec": Map,
  "InitialDelaySeconds": Integer,
  "HttpGet": Map,
  "PeriodSeconds": Integer,
  "TcpSocket": Map,
  "FailureThreshold": Integer,
  "SuccessThreshold": Integer
}
```

Liveness properties

Property	Type	Required	Editable	Description	Constraint
TimeoutSeconds	Integer	No	No	The timeout period of probes.	Minimum value: 1. Unit: seconds.

Property	Type	Required	Editable	Description	Constraint
Exec	Map	No	No	The commands that are run by exec probes.	For more information, see Exec properties.
InitialDelaySeconds	Integer	No	No	The period between when the container is started and when the system performs the first probe.	Minimum value: 1. Unit: seconds.
HttpGet	Map	No	No	The HTTP GET methods.	For more information, see HttpGet properties.
PeriodSeconds	Integer	No	No	The time interval between two consecutive probes.	Minimum value: 1. Unit: seconds.
TcpSocket	Map	No	No	The ports to which the system sends TCP socket requests for health checks.	For more information, see TcpSocket properties.
FailureThreshold	Integer	No	No	The number of consecutive failed health checks that must occur before a port is declared unhealthy.	Minimum value: 1.
SuccessThreshold	Integer	No	No	The number of consecutive successful health checks that must occur before a port is declared healthy.	Minimum value: 1.

Exec syntax

```
"Exec": {
  "Command": List
}
```

Exec properties

Property	Type	Required	Editable	Description	Constraint
Command	List	No	No	The commands that are run by exec probes.	None

HttpGet syntax

```
"HttpGet": {
  "Path": String,
  "HttpHeaders": List,
  "Scheme": String,
  "Port": String,
  "Host": String
}
```

HttpGet properties

Property	Type	Required	Editable	Description	Constraint
Path	String	No	No	The path.	None
HttpHeaders	List	No	No	The HTTP request headers.	Set the property in the `[{"name": "test","value": "testvalue"}]` format. For more information, see HttpHeaders properties.
Scheme	String	No	No	The scheme.	Set the property in the `{'AllowedValues': ['HTTP', 'HTTPS']}` format.
Port	String	No	No	The port.	None
Host	String	No	No	The host.	None

HttpHeaders syntax

```
"HttpHeaders": [
  {
    "Value": String,
    "Name": String
  }
]
```

HttpHeaders properties

Property	Type	Required	Editable	Description	Constraint
Value	String	No	No	The value.	None
Name	String	No	No	The name.	None

TcpSocket syntax

```
"TcpSocket": {
  "Port": String,
  "Host": String
}
```

TcpSocket properties

Property	Type	Required	Editable	Description	Constraint
Port	String	No	No	The port.	None
Host	String	No	No	The host.	None

SlsConfigs syntax

```
"SlsConfigs": [
  {
    "Type": String,
    "LogDir": String,
    "Logstore": String
  }
]
```

SlsConfigs properties

Property	Type	Required	Editable	Description	Constraint
Type	String	No	No	The type of data to be collected.	Valid values: • file: the file type • stdout: the standard output type

Property	Type	Required	Editable	Description	Constraint
LogDir	String	No	No	The collection path.	The collection path can contain `^/(.+)/(.*)^/$` . If you set the Type property to stdout, the collection path is stdout.log. If you set the Type property to file, the collection path is the path to the collected file.
Logstore	String	No	No	The name of the Logstore.	Make sure that the name of the Logstore is unique in the cluster. The name must be 3 to 63 characters in length and can contain lowercase letters, digits, hyphens (-), and underscores (_). The name must start and end with a lowercase letter or digit. **Note** If you do not set this property, the system generates a Logstore name.

WebContainerConfig syntax

```
"WebContainerConfig": {
  "HttpPort": Integer,
  "UriEncoding": String,
  "ContextPath": String,
  "ContextInputType": String,
  "UseBodyEncoding": Boolean,
  "ServerXml": String,
  "MaxThreads": Integer,
  "UseAdvancedServerXml": Boolean,
  "UseDefaultConfig": Boolean
}
```

WebContainerConfig properties

Property	Type	Required	Editable	Description	Constraint
HttpPort	Integer	No	No	The HTTP port.	Valid values: 1024 to 65535. Default value: 8080. **Note** The root permissions are required to perform operations on a port whose number is less than 1024.
UriEncoding	String	No	No	The encoding format for Tomcat.	Default value: ISO-8859-1. Valid values: • UTF-8 • ISO-8859-1 • GBK • GB2312
ContextPath	String	No	No	The custom path.	You must set this property if the ContextInputType property is set to custom.
ContextInputType	String	No	No	The access path of the application.	Valid values: • war: The access path is the name of the WAR package. You do not need to specify a custom path. • root: The access path is `/` . You do not need to specify a custom path. • custom: You need to specify a custom path (ContextPath).

Property	Type	Required	Editable	Description	Constraint
UseBodyEncoding	Boolean	No	No	Specifies whether to use encoding configured for the request body when the URL is decoded.	Default value: false. Valid values: • true • false
ServerXml	String	No	No	The content of the custom server.xml file in advanced configurations.	This property takes effect only if the UseAdvancedServerXml property is set to true.
MaxThreads	Integer	No	No	The number of connections in the connection pool.	Default value: 400. **Note** This property significantly affects application performance. We recommend that you consult with technical support before you set this property.
UseAdvancedServerXml	Boolean	No	No	Specifies whether to use advanced configurations to customize the server.xml file.	Default value: false. Valid values: • true • false If you set the UseAdvancedServerXml property to true, you can modify the server.xml file of Tomcat.
UseDefaultConfig	Boolean	No	No	Specifies whether to use the custom configurations.	Default value: true. Valid values: • true: uses the default configurations instead of the custom configurations. • false: uses the custom configurations instead of the default configurations.

PreStop syntax

```
"PreStop": {
  "Exec": Map,
  "HttpGet": Map
}
```

PreStop properties

Property	Type	Required	Editable	Description	Constraint
Exec	Map	No	No	The commands that are run by exec probes.	None
HttpGet	Map	No	No	The HTTP GET methods.	None

Readiness syntax

```
"Readiness": {
  "TimeoutSeconds": Integer,
  "Exec": Map,
  "InitialDelaySeconds": Integer,
  "HttpGet": Map,
  "PeriodSeconds": Integer,
  "TcpSocket": Map,
  "FailureThreshold": Integer,
  "SuccessThreshold": Integer
}
```

Readiness properties

Property	Type	Required	Editable	Description	Constraint
TimeoutSeconds	Integer	No	No	The timeout.	Unit: seconds. Minimum value: 1.
Exec	Map	No	No	The commands that are run by exec probes.	None
InitialDelaySeconds	Integer	No	No	The initial delay.	Unit: seconds. Minimum value: 1.
HttpGet	Map	No	No	The HTTP GET requests.	None
PeriodSeconds	Integer	No	No	The readiness period.	Unit: seconds. Minimum value: 1.
TcpSocket	Map	No	No	The ports to which the system sends TCP socket requests for health checks.	None
FailureThreshold	Integer	No	No	The failure threshold.	Minimum value: 1.
SuccessThreshold	Integer	No	No	The success threshold.	Minimum value: 1.

JavaStartUpConfig syntax

```
"JavaStartUpConfig": {
  "MaxHeapSize": Map,
  "UseGCLogFileRotation": Map,
  "CustomParams": Map,
  "ParallelGCThreads": Map,
  "InitialHeapSize": Map,
  "NacosUseEndpointParsingRule": Map,
  "ThreadStackSize": Map,
  "SurvivorRatio": Map,
  "PermSize": Map,
  "NewSize": Map,
  "ConcGCThreads": Map,
  "NewRatio": Map,
  "GCLogFileSize": Map,
  "MaxNewSize": Map,
  "G1HeapRegionSize": Map,
  "PrintGC": Map,
  "MaxDirectMemorySize": Map,
  "MaxPermSize": Map,
  "HeapDumpOnOutOfMemoryError": Map,
  "NacosUseCloudNamespaceParsing": Map,
  "HeapDumpPath": Map,
  "GCLogFilePath": Map,
  "PrintGCDateStamps": Map,
  "YoungGarbageCollector": Map,
  "OldGarbageCollector": Map
}
```

JavaStartUpConfig properties

Property	Type	Required	Editable	Description	Constraint
MaxHeapSize	Map	No	No	The maximum size of the heap memory.	Unit: MB. Valid values: 0 to (0.85 × Available memory of ECS instances for the application). For more information, see MaxHeapSize properties.
UseGCLogFileRotation	Map	No	No	Specifies whether to rotate Garbage Collection (GC) log files.	For more information, see UseGCLogFileRotation properties.
CustomParams	Map	No	No	The custom parameters to be used.	Separate multiple parameters with spaces. For more information, see CustomParams properties.
ParallelGCThreads	Map	No	No	The threads to be used for parallel GC.	For more information, see ParallelGCThreads properties.
InitialHeapSize	Map	No	No	The initial heap size.	Unit: MB. 0 specifies that there is no limit on the initial heap size. For more information, see InitialHeapSize properties.
NacosUseEndpointParsingRule	Map	No	No	Specifies whether to enable endpoint parsing rules.	For more information, see NacosUseEndpointParsingRule properties.
ThreadStackSize	Map	No	No	The memory size of the thread stack.	Unit: KB. For more information, see ThreadStackSize properties.

Property	Type	Required	Editable	Description	Constraint
SurvivorRatio	Map	No	No	The Eden/Survivor memory ratio.	For more information, see SurvivorRatio properties.
PermSize	Map	No	No	The initial size of the permanent generation memory.	Unit: MB. For more information, see PermSize properties.
NewSize	Map	No	No	The initial size of the new generation heap memory.	Unit: MB. For more information, see NewSize properties.
ConcGCThreads	Map	No	No	The threads to be used for concurrent GC.	For more information, see ConcGCThreads properties.
NewRatio	Map	No	No	The memory ratio between the old and young generations.	For more information, see NewRatio properties.
GCLogFileSize	Map	No	No	The size of the GC log file.	For more information, see GCLogFileSize properties.
MaxNewSize	Map	No	No	The maximum size of the new generation heap.	Unit: MB. max_uintx specifies that there is no upper limit on memory size. For more information, see MaxNewSize properties.
G1HeapRegionSize	Map	No	No	The size of the G1 region.	For more information, see G1HeapRegionSize properties.
PrintGC	Map	No	No	Specifies whether to print summary GC information after each collection.	For more information, see PrintGC properties.
MaxDirectMemorySize	Map	No	No	The maximum size of the non-blocking I/O (NIO) direct memory.	Unit: MB. For more information, see MaxDirectMemorySize properties.
MaxPermSize	Map	No	No	The maximum size of the persistent heap.	Unit: MB. For more information, see MaxPermSize properties.
HeapDumpOnOutOfMemoryError	Map	No	No	Specifies whether to dump the heap memory when an out-of-memory error occurs.	For more information, see HeapDumpOnOutOfMemoryError properties.
NacosUseCloudNamespaceParsing	Map	No	No	Specifies whether to enable automatic namespace parsing.	For more information, see NacosUseCloudNamespaceParsing properties.
HeapDumpPath	Map	No	No	The paths of heap dump files.	For more information, see HeapDumpPath properties.
GCLogFilePath	Map	No	No	The paths of GC log files.	For more information, see GCLogFilePath properties.
PrintGCDateStamps	Map	No	No	Specifies whether to print a date stamp at every GC.	For more information, see PrintGCDateStamps properties.

Property	Type	Required	Editable	Description	Constraint
YoungGarbageCollector	Map	No	No	The young garbage collector configurations.	For more information, see YoungGarbageCollector properties.
OldGarbageCollector	Map	No	No	The old garbage collector configurations.	You must first configure the young garbage collector. For more information, see OldGarbageCollector properties.

MaxHeapSize syntax

```
"MaxHeapSize": {
  "Original": Integer,
  "Startup": String
}
```

MaxHeapSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

UseGCLogFileRotation syntax

```
"UseGCLogFileRotation": {
  "Original": Boolean,
  "Startup": String
}
```

UseGCLogFileRotation properties

Property	Type	Required	Editable	Description	Constraint
Original	Boolean	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

CustomParams syntax

```
"CustomParams": {
  "Original": String,
  "Startup": String
}
```

CustomParams properties

Property	Type	Required	Editable	Description	Constraint
Original	String	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

ParallelGCThreads syntax

```
"ParallelGCThreads": {
  "Original": Integer,
  "Startup": String
}
```

ParallelGCThreads properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

InitialHeapSize syntax

```
"InitialHeapSize": {
  "Original": Integer,
  "Startup": String
}
```

InitialHeapSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

NacosUseEndpointParsingRule syntax

```
"NacosUseEndpointParsingRule": {
  "Original": Boolean,
  "Startup": String
}
```

NacosUseEndpointParsingRule properties

Property	Type	Required	Editable	Description	Constraint
Original	Boolean	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

ThreadStackSize syntax

```
"ThreadStackSize": {
  "Original": Integer,
  "Startup": String
}
```

ThreadStackSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

SurvivorRatio syntax

```
"SurvivorRatio": {
  "Original": Integer,
  "Startup": String
}
```

SurvivorRatio properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

PermSize syntax

```
"PermSize": {
  "Original": Integer,
  "Startup": String
}
```

PermSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

NewSize syntax

```
"NewSize": {
  "Original": Integer,
  "Startup": String
}
```

NewSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

ConcGCThreads syntax

```
"ConcGCThreads": {
  "Original": Integer,
  "Startup": String
}
```

ConcGCThreads properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

NewRatio syntax

```
"NewRatio": {
  "Original": Integer,
  "Startup": String
}
```

NewRatio properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

GCLogFileSize syntax

```
"GCLogFileSize": {
  "Original": Integer,
  "Startup": String
}
```

GCLogFileSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

MaxNewSize syntax

```
"MaxNewSize": {
  "Original": Integer,
  "Startup": String
}
```

MaxNewSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

G1HeapRegionSize syntax

```
"G1HeapRegionSize": {
  "Original": Integer,
  "Startup": String
}
```

G1HeapRegionSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

PrintGC syntax

```
"PrintGC": {
  "Original": Boolean,
  "Startup": String
}
```

PrintGC properties

Property	Type	Required	Editable	Description	Constraint
Original	Boolean	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

MaxDirectMemorySize syntax

```
"MaxDirectMemorySize": {
  "Original": Integer,
  "Startup": String
}
```

MaxDirectMemorySize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

MaxPermSize syntax

```
"MaxPermSize": {
  "Original": Integer,
  "Startup": String
}
```

MaxPermSize properties

Property	Type	Required	Editable	Description	Constraint
Original	Integer	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

HeapDumpOnOutOfMemoryError syntax

```
"HeapDumpOnOutOfMemoryError": {
  "Original": Boolean,
  "Startup": String
}
```

HeapDumpOnOutOfMemoryError properties

Property	Type	Required	Editable	Description	Constraint
Original	Boolean	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

NacosUseCloudNamespaceParsing syntax

```
"NacosUseCloudNamespaceParsing": {
  "Original": Boolean,
  "Startup": String
}
```

NacosUseCloudNamespaceParsing properties

Property	Type	Required	Editable	Description	Constraint
Original	Boolean	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

HeapDumpPath syntax

```
"HeapDumpPath": {
  "Original": String,
  "Startup": String
}
```

HeapDumpPath properties

Property	Type	Required	Editable	Description	Constraint
Original	String	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

GCLogFilePath syntax

```
"GCLogFilePath": {
  "Original": String,
  "Startup": String
}
```

GCLogFilePath properties

Property	Type	Required	Editable	Description	Constraint
Original	String	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

PrintGCDateStamps syntax

```
"PrintGCDateStamps": {
  "Original": Boolean,
  "Startup": String
}
```

PrintGCDateStamps properties

Property	Type	Required	Editable	Description	Constraint
Original	Boolean	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

YoungGarbageCollector syntax

```
"YoungGarbageCollector": {
  "Original": String,
  "Startup": String
}
```

YoungGarbageCollector properties

Property	Type	Required	Editable	Description	Constraint
Original	String	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

OldGarbageCollector syntax

```
"OldGarbageCollector": {
  "Original": String,
  "Startup": String
}
```

OldGarbageCollector properties

Property	Type	Required	Editable	Description	Constraint
Original	String	No	No	The parameter value.	None
Startup	String	No	No	The startup parameter.	None

CommandArgs syntax

```
"CommandArgs": [
  {
    "Argument": String
  }
]
```

CommandArgs properties

Property	Type	Required	Editable	Description	Constraint
Argument	String	No	No	The argument of the command.	You must use this property together with the command. Set this property to a JSON array in the `[{"argument":"-c"},{"argument":"test"}]` format. `-c` and `test` are two arguments that need to be specified.

Envs syntax

```
"Envs": [
  {
    "Value": String,
    "Name": String
  }
]
```

Envs properties

Property	Type	Required	Editable	Description	Constraint
Value	String	No	No	The value.	None
Name	String	No	No	The name.	None

PostStart syntax

```
"PostStart": {
  "Exec": Map,
  "HttpGet": Map
}
```

PostStart properties

Property	Type	Required	Editable	Description	Constraint
Exec	Map	No	No	The commands that are run by exec probes.	None
HttpGet	Map	No	No	The HTTP GET requests.	None

MountDescs syntax

```
"MountDescs": [
  {
    "MountPath": String,
    "NasPath": String
  }
]
```

MountDescs properties

Property	Type	Required	Editable	Description	Constraint
MountPath	String	No	No	The path to mount the file system to the container.	None
NasPath	String	No	No	The file storage path.	None

LocalVolume syntax

```
"LocalVolume": [
  {
    "MountPath": String,
    "Type": String,
    "NodePath": String
  }
]
```

LocalVolume properties

Property	Type	Required	Editable	Description	Constraint
MountPath	String	No	No	The path within the container.	None
Type	String	No	No	The type of the file to be mounted.	None
NodePath	String	No	No	The host path.	None

Return values

Fn::GetAtt

- AppId: the ID of the application.
- ClusterId: the cluster ID of the application.
- ChangeOrderId: the ID of the change process.
- CsClusterId: the Kubernetes cluster ID of the application.
- AppName: the name of the application.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
  "Parameters": {
    "LogicalRegionId": {
      "Type": "String",
      "Description": "The ID of the EDAS namespace. This parameter is required for a non-default namespace."
    },
    "NasId": {
      "Type": "String",
      "Description": "The ID of the Network Attached Storage (NAS) file system mounted to the container where the application i
s running. The NAS file system must be in the same region as the cluster. The NAS file system must have an available mount targ
et, or have a mount\ntarget on the vSwitch in the virtual private cloud (VPC) where the application is located. If this paramet
er is not specified and the mountDescs field exists, a NAS file system is automatically purchased and mounted to the vSwitch in
the VPC by default."
    },
    "Liveness": {
      "Type": "Json",
      "Description": "The liveness check on the container."
    },
    "IntranetSlbId": {
      "Type": "String",
      "Description": "The ID of the internal-facing SLB instance. If this parameter is not specified, Enterprise Distributed Ap
plication Service (EDAS) automatically purchases a new SLB instance for you."
    },
    "WebContainer": {
      "Type": "String",
      "Description": "The version of the Tomcat container on which the deployment package of the application depends. This para
meter is applicable to Spring Cloud and Apache Dubbo applications that are deployed by using WAR packages. This parameter is no
t supported when you deploy an application by using images."
    },
    "LimitCpu": {
      "Type": "Number",
      "Description": "The maximum number of CPUs allowed for each application instance when the application\nis running. Unit:
cores."
    },
    "SlsConfigs": {
      "Type": "Json",
      "Description": "The Logstore configurations."
    },
    "IntranetSlbProtocol": {
      "Type": "String",
      "Description": "The protocol of the internal-facing SLB instance. Valid values: TCP, HTTP, and HTTPS.",
      "AllowedValues": [
        "TCP",
        "HTTP",
        "HTTPS"
      ]
    },
    "PackageVersion": {
      "Type": "String",
      "Description": "The version of the deployment package. This parameter is required when the PackageType parameter is set t
o WAR or FatJar. You must specify a version.\nNote The version of SDK for Java or Python must be 2.44.0 or later."
    },
    "WebContainerConfig": {
      "Type": "Json",
      "Description": "The Tomcat container configuration."
    },
    "AppName": {
      "Type": "String",
      "Description": "The name of the application. The name must start with a letter and can contain digits,\nletters, and hyph
ens (-). It can be up to 36 characters in length."
    },
    "JDK": {
      "Type": "String",
      "Description": "The version of Java Development Kit (JDK) on which the deployment package of the application depends. \nV
alid values: Open JDK 7 and Open JDK 8. This parameter is not supported when you deploy an application by using images."
    },
    "InternetSlbId": {
      "Type": "String",
      "Description": "The ID of the Internet-facing SLB instance. If this parameter is not specified, EDAS automatically purcha
ses a new SLB instance for you."
    },
    "PreStop": {
      "Type": "Json",
      "Description": "The pre-stop script. For example, {\"Exec\": {\"Command\": [\"ls\", \"/\"]}}."
    },
```

```
    "InternetSlbPort": {
      "Type": "Number",
      "Description": "The frontend port of the Internet-facing SLB instance. Valid values: 1 to 65535.",
      "MinValue": 1,
      "MaxValue": 65535
    },
    "Readiness": {
      "Type": "Json",
      "Description": "The readiness check on the container."
    },
    "DeployAcrossNodes": {
      "Type": "Boolean",
      "Description": "Specifies whether to distribute application instances to multiple nodes. The value true indicates yes, wh
ereas other values indicate no.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "RequestsMem": {
      "Type": "Number",
      "Description": "The maximum amount of memory allowed for each application instance when the application\nis created. Unit
: MB. The value 0 indicates no limit.",
      "MinValue": 0
    },
    "PackageType": {
      "Type": "String",
      "Description": "The type of the deployment package. Valid values: FatJar, WAR, and Image."
    },
    "UseBodyEncoding": {
      "Type": "Boolean",
      "Description": "Specifies whether useBodyEncodingForURI is enabled.\nNote If this parameter is not specified in applicati
on configuration, the default value\nfalse is applied.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "JavaStartUpConfig": {
      "Type": "Json",
      "Description": "The configuration of Java startup parameters for a Java application. These startup parameters involve the
memory, application, garbage collection (GC) policy, tools, service registration and discovery, and custom configurations. Prop
er parameter settings help reduce the GC overhead, shorten the server response time, and improve the throughput.\nThe system au
tomatically concatenates all startup values as the configuration of Java startup parameters for the application."
    },
    "IsMultilingualApp": {
      "Type": "Boolean",
      "Description": "Specifies whether the application is a multi-language application.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "RequestsCpu": {
      "Type": "Number",
      "Description": "The maximum number of CPUs allowed for each application instance when the application is created. Unit: c
ores. The value 0 indicates no limit.",
      "MinValue": 0
    },
    "CommandArgs": {
      "Type": "Json",
      "Description": "The collection of commands. For example, [{\"argument\":\"-c\"},{\"argument\":\"test\"}], where -c and te
st are two parameters that can be set."
    },
    "StorageType": {
      "Type": "String",
      "Description": "Only SSD is supported."
    },
    "ClusterId": {
```

```
    "ClusterId": {
      "Type": "String",
      "Description": "The cluster ID. You can query the cluster ID by calling the ListCluster operation.\nFor more information,
see ListCluster."
    },
    "Timeout": {
      "Type": "Number",
      "Description": "The timeout interval of the change process. Unit: seconds.",
      "MinValue": 1
    },
    "Envs": {
      "Type": "Json",
      "Description": "The collection of deployment environment variables. For example, [{\"Name\":\"x\",\"Value\":\"y\"},{\"Nam
e\":\"x2\",\"Value\":\"y2\"}]."
    },
    "ImageUrl": {
      "Type": "String",
      "Description": "The image URL. When PackageType is set to Image, this parameter is required."
    },
    "DeployAcrossZones": {
      "Type": "Boolean",
      "Description": "Specifies whether to distribute application instances to multiple zones. The value true indicates yes, wh
ereas other values indicate no.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PostStart": {
      "Type": "Json",
      "Description": "The post-start script. For example, {\"Exec\": {\"Command\": [\"ls\", \"/\"]}}."
    },
    "InternetTargetPort": {
      "Type": "Number",
      "Description": "The backend port of the internal-facing SLB instance, which is also the service port of the application.\
nValid values: 1 to 65535.",
      "MinValue": 1,
      "MaxValue": 65535
    },
    "Replicas": {
      "Type": "Number",
      "Description": "The number of instances for the application that you want to create. Default: 1",
      "MinValue": 1,
      "Default": 1
    },
    "Namespace": {
      "Type": "String",
      "Description": "The namespace of the Kubernetes cluster. This parameter determines the Kubernetes namespace where your ap
plication is deployed. By default, this parameter is set to default."
    },
    "ApplicationDescription": {
      "Type": "String",
      "Description": "The description of the application."
    },
    "UriEncoding": {
      "Type": "String",
      "Description": "The uniform resource identifier (URI) encoding scheme. Valid values: ISO-8859-1, GBK, GB2312, and UTF-8.\
nNote If this parameter is not specified in application configuration, the default URI encoding\nscheme in the Tomcat container
is applied."
    },
    "IntranetTargetPort": {
      "Type": "Number",
      "Description": "The backend port of the internal-facing Server Load Balancer (SLB) instance, which is also the service po
rt of the application. Valid values: 1 to 65535."
    },
    "MountDescs": {
      "Type": "Json",
      "Description": "The description of the NAS mounting configuration. For example, the value can be [{\"NasPath\": \"/k8s\",
\"MountPath\": \"/mnt\"}, {\"NasPath\": \"/files\", \"MountPath\": \"/app/files\"}]."
    },
    "LocalVolume": {
      "Type": "Json",
      "Description": "The configuration for mounting host files to the container where the application is running. For example,
```

```
      "Description": "The configuration for mounting host files to the container where the application is running. For example,
the value can be [{\"type\":\"\", \"nodePath\":\"/localfiles\", \"mountPath\":\"/app/files\"}, {\"type\":\"Directory\", \"nodeP
ath\":\"/mnt\", \"mountPath\":\"/app/storage\"}]."
    },
    "RuntimeClassName": {
      "Type": "String",
      "Description": "The type of the container runtime. This parameter is applicable only to clusters that use sandboxed conta
iners."
    },
    "Command": {
      "Type": "String",
      "Description": "The command that is specified. If it is specified, it replaces the startup command in the image when the
image is started."
    },
    "InternetSlbProtocol": {
      "Type": "String",
      "Description": "The protocol of the Internet-facing SLB instance. Valid values: TCP, HTTP, and HTTPS.",
      "AllowedValues": [
        "TCP",
        "HTTP",
        "HTTPS"
      ]
    },
    "EdasContainerVersion": {
      "Type": "String",
      "Description": "The version of EDAS Container on which the deployment package of the application depends.\nNote This para
meter is not supported when you deploy an application by using images."
    },
    "PackageUrl": {
      "Type": "String",
      "Description": "The URL of the deployment package. This parameter must be set for the applications\nthat are deployed by
using FatJar or WAR packages.\nNote The version of SDK for Java or Python must be 2.44.0 or later."
    },
    "IntranetSlbPort": {
      "Type": "Number",
      "Description": "The frontend port of the internal-facing SLB instance. Valid values: 1 to 65535.",
      "MinValue": 1,
      "MaxValue": 65535
    },
    "RepoId": {
      "Type": "String",
      "Description": "The ID of the image repository."
    },
    "EnableAhas": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable access to Application High Availability Service (AHAS).",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "LimitMem": {
      "Type": "Number",
      "Description": "The maximum amount of memory allowed for each application instance when the application is running. Unit:
MB.",
      "MinValue": 1
    }
  },
  "Resources": {
    "K8sApplication": {
      "Type": "ALIYUN::EDAS::K8sApplication",
      "Properties": {
        "LogicalRegionId": {
          "Ref": "LogicalRegionId"
        },
        "NasId": {
          "Ref": "NasId"
        },
        "Liveness": {
          "Ref": "Liveness"
        },
        "IntranetSlbId": {
          "Ref": "IntranetSlbId"
```

```
        },
        "WebContainer": {
          "Ref": "WebContainer"
        },
        "LimitCpu": {
          "Ref": "LimitCpu"
        },
        "SlsConfigs": {
          "Ref": "SlsConfigs"
        },
        "IntranetSlbProtocol": {
          "Ref": "IntranetSlbProtocol"
        },
        "PackageVersion": {
          "Ref": "PackageVersion"
        },
        "WebContainerConfig": {
          "Ref": "WebContainerConfig"
        },
        "AppName": {
          "Ref": "AppName"
        },
        "JDK": {
          "Ref": "JDK"
        },
        "InternetSlbId": {
          "Ref": "InternetSlbId"
        },
        "PreStop": {
          "Ref": "PreStop"
        },
        "InternetSlbPort": {
          "Ref": "InternetSlbPort"
        },
        "Readiness": {
          "Ref": "Readiness"
        },
        "DeployAcrossNodes": {
          "Ref": "DeployAcrossNodes"
        },
        "RequestsMem": {
          "Ref": "RequestsMem"
        },
        "PackageType": {
          "Ref": "PackageType"
        },
        "UseBodyEncoding": {
          "Ref": "UseBodyEncoding"
        },
        "JavaStartUpConfig": {
          "Ref": "JavaStartUpConfig"
        },
        "IsMultilingualApp": {
          "Ref": "IsMultilingualApp"
        },
        "RequestsCpu": {
          "Ref": "RequestsCpu"
        },
        "CommandArgs": {
          "Ref": "CommandArgs"
        },
        "StorageType": {
          "Ref": "StorageType"
        },
        "ClusterId": {
          "Ref": "ClusterId"
        },
        "Timeout": {
          "Ref": "Timeout"
        },
        "Envs": {
          "Ref": "Envs"
        },
        "ImageUrl": {
```

```
          "Ref": "ImageUrl"
        },
        "DeployAcrossZones": {
          "Ref": "DeployAcrossZones"
        },
        "PostStart": {
          "Ref": "PostStart"
        },
        "InternetTargetPort": {
          "Ref": "InternetTargetPort"
        },
        "Replicas": {
          "Ref": "Replicas"
        },
        "Namespace": {
          "Ref": "Namespace"
        },
        "ApplicationDescription": {
          "Ref": "ApplicationDescription"
        },
        "UriEncoding": {
          "Ref": "UriEncoding"
        },
        "IntranetTargetPort": {
          "Ref": "IntranetTargetPort"
        },
        "MountDescs": {
          "Ref": "MountDescs"
        },
        "LocalVolume": {
          "Ref": "LocalVolume"
        },
        "RuntimeClassName": {
          "Ref": "RuntimeClassName"
        },
        "Command": {
          "Ref": "Command"
        },
        "InternetSlbProtocol": {
          "Ref": "InternetSlbProtocol"
        },
        "EdasContainerVersion": {
          "Ref": "EdasContainerVersion"
        },
        "PackageUrl": {
          "Ref": "PackageUrl"
        },
        "IntranetSlbPort": {
          "Ref": "IntranetSlbPort"
        },
        "RepoId": {
          "Ref": "RepoId"
        },
        "EnableAhas": {
          "Ref": "EnableAhas"
        },
        "LimitMem": {
          "Ref": "LimitMem"
        }
      }
    }
  },
  "Outputs": {
    "AppId": {
      "Description": "The ID of the application.",
      "Value": {
        "Fn::GetAtt": [
          "K8sApplication",
          "AppId"
        ]
      }
    },
    "ClusterId": {
      "Description": "The cluster ID of the application.",
```

```
      "Value": {
        "Fn::GetAtt": [
          "K8sApplication",
          "ClusterId"
        ]
      }
    },
    "ChangeOrderId": {
      "Description": "The ID of the change process.",
      "Value": {
        "Fn::GetAtt": [
          "K8sApplication",
          "ChangeOrderId"
        ]
      }
    },
    "CsClusterId": {
      "Description": "The K8s cluster ID of the application.",
      "Value": {
        "Fn::GetAtt": [
          "K8sApplication",
          "CsClusterId"
        ]
      }
    },
    "AppName": {
      "Description": "The name of the application.",
      "Value": {
        "Fn::GetAtt": [
          "K8sApplication",
          "AppName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AppName:
    Description: 'The name of the application. The name must start with a letter and
      can contain digits,
      letters, and hyphens (-). It can be up to 36 characters in length.'
    Type: String
  ApplicationDescription:
    Description: The description of the application.
    Type: String
  ClusterId:
    Description: 'The cluster ID. You can query the cluster ID by calling the ListCluster
      operation.
      For more information, see ListCluster.'
    Type: String
  Command:
    Description: The command that is specified. If it is specified, it replaces the
      startup command in the image when the image is started.
    Type: String
  CommandArgs:
    Description: The collection of commands. For example, [{"argument":"-c"},{"argument":"test"}],
      where -c and test are two parameters that can be set.
    Type: Json
  DeployAcrossNodes:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Specifies whether to distribute application instances to multiple
      nodes. The value true indicates yes, whereas other values indicate no.
    Type: Boolean
  DeployAcrossZones:
    AllowedValues:
    - 'True'
```

```
    - 'true'
    - 'False'
    - 'false'
    Description: Specifies whether to distribute application instances to multiple
      zones. The value true indicates yes, whereas other values indicate no.
    Type: Boolean
  EdasContainerVersion:
    Description: 'The version of EDAS Container on which the deployment package of
      the application depends.
      Note This parameter is not supported when you deploy an application by using
      images.'
    Type: String
  EnableAhas:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Specifies whether to enable access to Application High Availability
      Service (AHAS).
    Type: Boolean
  Envs:
    Description: The collection of deployment environment variables. For example,
      [{"Name":"x","Value":"y"},{"Name":"x2","Value":"y2"}].
    Type: Json
  ImageUrl:
    Description: The image URL. When PackageType is set to Image, this parameter is
      required.
    Type: String
  InternetSlbId:
    Description: The ID of the Internet-facing SLB instance. If this parameter is
      not specified, EDAS automatically purchases a new SLB instance for you.
    Type: String
  InternetSlbPort:
    Description: 'The frontend port of the Internet-facing SLB instance. Valid values:
      1 to 65535.'
    MaxValue: 65535
    MinValue: 1
    Type: Number
  InternetSlbProtocol:
    AllowedValues:
    - TCP
    - HTTP
    - HTTPS
    Description: 'The protocol of the Internet-facing SLB instance. Valid values:
      TCP, HTTP, and HTTPS.'
    Type: String
  InternetTargetPort:
    Description: 'The backend port of the internal-facing SLB instance, which is also
      the service port of the application.
      Valid values: 1 to 65535.'
    MaxValue: 65535
    MinValue: 1
    Type: Number
  IntranetSlbId:
    Description: The ID of the internal-facing SLB instance. If this parameter is
      not specified, Enterprise Distributed Application Service (EDAS) automatically
      purchases a new SLB instance for you.
    Type: String
  IntranetSlbPort:
    Description: 'The frontend port of the internal-facing SLB instance. Valid values:
      1 to 65535.'
    MaxValue: 65535
    MinValue: 1
    Type: Number
  IntranetSlbProtocol:
    AllowedValues:
    - TCP
    - HTTP
    - HTTPS
    Description: 'The protocol of the internal-facing SLB instance. Valid values:
      TCP, HTTP, and HTTPS.'
    Type: String
  IntranetTargetPort:
```

```
    Description: 'The backend port of the internal-facing Server Load Balancer (SLB)
      instance, which is also the service port of the application. Valid values: 1
      to 65535.'
    Type: Number
  IsMultilingualApp:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Specifies whether the application is a multi-language application.
    Type: Boolean
  JDK:
    Description: "The version of Java Development Kit (JDK) on which the deployment\
      \ package of the application depends. \nValid values: Open JDK 7 and Open JDK\
      \ 8. This parameter is not supported when you deploy an application by using\
      \ images."
    Type: String
  JavaStartUpConfig:
    Description: 'The configuration of Java startup parameters for a Java application.
      These startup parameters involve the memory, application, garbage collection
      (GC) policy, tools, service registration and discovery, and custom configurations.
      Proper parameter settings help reduce the GC overhead, shorten the server response
      time, and improve the throughput.
      The system automatically concatenates all startup values as the configuration
      of Java startup parameters for the application.'
    Type: Json
  LimitCpu:
    Description: 'The maximum number of CPUs allowed for each application instance
      when the application
      is running. Unit: cores.'
    Type: Number
  LimitMem:
    Description: 'The maximum amount of memory allowed for each application instance
      when the application is running. Unit: MB.'
    MinValue: 1
    Type: Number
  Liveness:
    Description: The liveness check on the container.
    Type: Json
  LocalVolume:
    Description: The configuration for mounting host files to the container where
      the application is running. For example, the value can be [{"type":"", "nodePath":"/localfiles",
      "mountPath":"/app/files"}, {"type":"Directory", "nodePath":"/mnt", "mountPath":"/app/storage"}].
    Type: Json
  LogicalRegionId:
    Description: The ID of the EDAS namespace. This parameter is required for a non-default
      namespace.
    Type: String
  MountDescs:
    Description: 'The description of the NAS mounting configuration. For example,
      the value can be [{"NasPath": "/k8s","MountPath": "/mnt"}, {"NasPath": "/files",
      "MountPath": "/app/files"}].'
    Type: Json
  Namespace:
    Description: The namespace of the Kubernetes cluster. This parameter determines
      the Kubernetes namespace where your application is deployed. By default, this
      parameter is set to default.
    Type: String
  NasId:
    Description: 'The ID of the Network Attached Storage (NAS) file system mounted
      to the container where the application is running. The NAS file system must
      be in the same region as the cluster. The NAS file system must have an available
      mount target, or have a mount
      target on the vSwitch in the virtual private cloud (VPC) where the application
      is located. If this parameter is not specified and the mountDescs field exists,
      a NAS file system is automatically purchased and mounted to the vSwitch in the
      VPC by default.'
    Type: String
  PackageType:
    Description: 'The type of the deployment package. Valid values: FatJar, WAR, and
      Image.'
    Type: String
  PackageUrl:
```

```
    Description: 'The URL of the deployment package. This parameter must be set for
      the applications
      that are deployed by using FatJar or WAR packages.
      Note The version of SDK for Java or Python must be 2.44.0 or later.'
    Type: String
  PackageVersion:
    Description: 'The version of the deployment package. This parameter is required
      when the PackageType parameter is set to WAR or FatJar. You must specify a version.
      Note The version of SDK for Java or Python must be 2.44.0 or later.'
    Type: String
  PostStart:
    Description: 'The post-start script. For example, {"Exec": {"Command": ["ls",
      "/"]}}.'
    Type: Json
  PreStop:
    Description: 'The pre-stop script. For example, {"Exec": {"Command": ["ls", "/"]}}.'
    Type: Json
  Readiness:
    Description: The readiness check on the container.
    Type: Json
  Replicas:
    Default: 1
    Description: 'The number of instances for the application that you want to create.
      Default: 1'
    MinValue: 1
    Type: Number
  RepoId:
    Description: The ID of the image repository.
    Type: String
  RequestsCpu:
    Description: 'The maximum number of CPUs allowed for each application instance
      when the application is created. Unit: cores. The value 0 indicates no limit.'
    MinValue: 0
    Type: Number
  RequestsMem:
    Description: 'The maximum amount of memory allowed for each application instance
      when the application
      is created. Unit: MB. The value 0 indicates no limit.'
    MinValue: 0
    Type: Number
  RuntimeClassName:
    Description: The type of the container runtime. This parameter is applicable only
      to clusters that use sandboxed containers.
    Type: String
  SlsConfigs:
    Description: The Logstore configurations.
    Type: Json
  StorageType:
    Description: Only SSD is supported.
    Type: String
  Timeout:
    Description: 'The timeout interval of the change process. Unit: seconds.'
    MinValue: 1
    Type: Number
  UriEncoding:
    Description: 'The uniform resource identifier (URI) encoding scheme. Valid values:
      ISO-8859-1, GBK, GB2312, and UTF-8.
      Note If this parameter is not specified in application configuration, the default
      URI encoding
      scheme in the Tomcat container is applied.'
    Type: String
  UseBodyEncoding:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether useBodyEncodingForURI is enabled.
      Note If this parameter is not specified in application configuration, the default
      value
      false is applied.'
    Type: Boolean
  WebContainer:
    Description: The version of the Tomcat container on which the deployment package
```

```
      of the application depends. This parameter is applicable to Spring Cloud and
      Apache Dubbo applications that are deployed by using WAR packages. This parameter
      is not supported when you deploy an application by using images.
    Type: String
  WebContainerConfig:
    Description: The Tomcat container configuration.
    Type: Json
Resources:
  K8sApplication:
    Properties:
      AppName:
        Ref: AppName
      ApplicationDescription:
        Ref: ApplicationDescription
      ClusterId:
        Ref: ClusterId
      Command:
        Ref: Command
      CommandArgs:
        Ref: CommandArgs
      DeployAcrossNodes:
        Ref: DeployAcrossNodes
      DeployAcrossZones:
        Ref: DeployAcrossZones
      EdasContainerVersion:
        Ref: EdasContainerVersion
      EnableAhas:
        Ref: EnableAhas
      Envs:
        Ref: Envs
      ImageUrl:
        Ref: ImageUrl
      InternetSlbId:
        Ref: InternetSlbId
      InternetSlbPort:
        Ref: InternetSlbPort
      InternetSlbProtocol:
        Ref: InternetSlbProtocol
      InternetTargetPort:
        Ref: InternetTargetPort
      IntranetSlbId:
        Ref: IntranetSlbId
      IntranetSlbPort:
        Ref: IntranetSlbPort
      IntranetSlbProtocol:
        Ref: IntranetSlbProtocol
      IntranetTargetPort:
        Ref: IntranetTargetPort
      IsMultilingualApp:
        Ref: IsMultilingualApp
      JDK:
        Ref: JDK
      JavaStartUpConfig:
        Ref: JavaStartUpConfig
      LimitCpu:
        Ref: LimitCpu
      LimitMem:
        Ref: LimitMem
      Liveness:
        Ref: Liveness
      LocalVolume:
        Ref: LocalVolume
      LogicalRegionId:
        Ref: LogicalRegionId
      MountDescs:
        Ref: MountDescs
      Namespace:
        Ref: Namespace
      NasId:
        Ref: NasId
      PackageType:
        Ref: PackageType
      PackageUrl:
        Ref: PackageUrl
```

```
      PackageVersion:
        Ref: PackageVersion
      PostStart:
        Ref: PostStart
      PreStop:
        Ref: PreStop
      Readiness:
        Ref: Readiness
      Replicas:
        Ref: Replicas
      RepoId:
        Ref: RepoId
      RequestsCpu:
        Ref: RequestsCpu
      RequestsMem:
        Ref: RequestsMem
      RuntimeClassName:
        Ref: RuntimeClassName
      SlsConfigs:
        Ref: SlsConfigs
      StorageType:
        Ref: StorageType
      Timeout:
        Ref: Timeout
      UriEncoding:
        Ref: UriEncoding
      UseBodyEncoding:
        Ref: UseBodyEncoding
      WebContainer:
        Ref: WebContainer
      WebContainerConfig:
        Ref: WebContainerConfig
    Type: ALIYUN::EDAS::K8sApplication
Outputs:
  AppId:
    Description: The ID of the application.
    Value:
      Fn::GetAtt:
      - K8sApplication
      - AppId
  AppName:
    Description: The name of the application.
    Value:
      Fn::GetAtt:
      - K8sApplication
      - AppName
  ChangeOrderId:
    Description: The ID of the change process.
    Value:
      Fn::GetAtt:
      - K8sApplication
      - ChangeOrderId
  ClusterId:
    Description: The cluster ID of the application.
    Value:
      Fn::GetAtt:
      - K8sApplication
      - ClusterId
  CsClusterId:
    Description: The K8s cluster ID of the application.
    Value:
      Fn::GetAtt:
      - K8sApplication
      - CsClusterId
```

28.6. ALIYUN::EDAS::K8sCluster

ALIYUN::EDAS::K8sCluster is used to create a cluster of Container Service for Kubernetes (ACK).

Syntax

```
{
  "Type": "ALIYUN::EDAS::K8sCluster",
  "Properties": {
    "EnableAsm": String,
    "NamespaceId": String,
    "CsClusterId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
EnableAsm	String	No	No	Specifies whether to activate Alibaba Cloud Service Mesh (ASM).	Valid values: • true: activates ASM. • false: does not activate ASM.
NamespaceId	String	No	No	The ID of the namespace.	The format is `<Region ID>:<Microservice namespace identifier>`. Example: `cn-hangzhou:doc`.
CsClusterId	String	Yes	No	The ID of the cluster.	You can call the GetK8sCluster operation to query the cluster ID.

Return values

Fn::GetAtt

- VpcId: the ID of the virtual private cloud (VPC).
- NodeNum: the number of nodes.
- ClusterId: the ID of the cluster.
- ClusterName: the name of the cluster.
- SubNetCidr: the CIDR block of the subnet.
- NetworkMode: the network type of the cluster. A value of 1 indicates the classic network. A value of 2 indicates a VPC.
- ClusterType: the type of the cluster. A value of 2 indicates an Elastic Compute Service (ECS) cluster. A value of 5 indicates an ACK cluster or an ASK cluster.
- CsClusterId: the ID of the cluster of ACK.
- VSwitchId: the ID of the vSwitch.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "EnableAsm": {
      "Type": "String",
      "Description": "Whether enable ASM."
    },
    "NamespaceId": {
      "Type": "String",
      "Description": "The ID of the namespace to which the cluster that you want to import belongs."
    },
    "CsClusterId": {
      "Type": "String",
      "Description": "The ID of the CS cluster."
    }
  },
  "Resources": {
    "K8sCluster": {
      "Type": "ALIYUN::EDAS::K8sCluster",
      "Properties": {
        "EnableAsm": {
          "Ref": "EnableAsm"
        },
        "NamespaceId": {
```

```
          "Ref": "NamespaceId"
        },
        "CsClusterId": {
          "Ref": "CsClusterId"
        }
      }
    }
  },
  "Outputs": {
    "VpcId": {
      "Description": "The ID of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "VpcId"
        ]
      }
    },
    "NodeNum": {
      "Description": "Number of nodes.",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "NodeNum"
        ]
      }
    },
    "ClusterId": {
      "Description": "The ID of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "ClusterId"
        ]
      }
    },
    "ClusterName": {
      "Description": "The name of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "ClusterName"
        ]
      }
    },
    "SubNetCidr": {
      "Description": "Sub net CIDR.",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "SubNetCidr"
        ]
      }
    },
    "NetworkMode": {
      "Description": "Network node:\n1: Classic network\n2: VPC",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "NetworkMode"
        ]
      }
    },
    "ClusterType": {
      "Description": "The type of the cluster:\n2: ECS cluster\n5: Container Service K8s cluster or Serverless K8s cluster",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "ClusterType"
        ]
      }
    },
    "CsClusterId": {
      "Description": "The ID of the K8s cluster.",
```

```
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "CsClusterId"
        ]
      }
    },
    "VswitchId": {
      "Description": "The ID of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "K8sCluster",
          "VswitchId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CsClusterId:
    Description: The ID of the CS cluster.
    Type: String
  EnableAsm:
    Description: Whether enable ASM.
    Type: String
  NamespaceId:
    Description: The ID of the namespace to which the cluster that you want to import
      belongs.
    Type: String
Resources:
  K8sCluster:
    Properties:
      CsClusterId:
        Ref: CsClusterId
      EnableAsm:
        Ref: EnableAsm
      NamespaceId:
        Ref: NamespaceId
    Type: ALIYUN::EDAS::K8sCluster
Outputs:
  ClusterId:
    Description: The ID of the cluster.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - ClusterId
  ClusterName:
    Description: The name of the cluster.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - ClusterName
  ClusterType:
    Description: 'The type of the cluster:
      2: ECS cluster
      5: Container Service K8s cluster or Serverless K8s cluster'
    Value:
      Fn::GetAtt:
      - K8sCluster
      - ClusterType
  CsClusterId:
    Description: The ID of the K8s cluster.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - CsClusterId
  NetworkMode:
    Description: 'Network node:
      1: Classic network
      2: VPC'
```

```
    Value:
      Fn::GetAtt:
      - K8sCluster
      - NetworkMode
  NodeNum:
    Description: Number of nodes.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - NodeNum
  SubNetCidr:
    Description: Sub net CIDR.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - SubNetCidr
  VpcId:
    Description: The ID of the cluster.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - VpcId
  VswitchId:
    Description: The ID of the cluster.
    Value:
      Fn::GetAtt:
      - K8sCluster
      - VswitchId
```

28.7. ALIYUN::EDAS::K8sSlbBinding

ALIYUN::EDAS::K8sSlbBinding is used to bind a Server Load Balancer (SLB) instance to an application in a Container Service for Kubernetes (ACK) cluster.

Syntax

```
{
  "Type": "ALIYUN::EDAS::K8sSlbBinding",
  "Properties": {
    "Type": String,
    "AppId": String,
    "ClusterId": String,
    "Scheduler": String,
    "Specification": String,
    "LoadBalancerId": String,
    "ServicePortInfos": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The network type of the SLB instance.	Valid values: • internet: the Internet • Intranet: a virtual private cloud (VPC)
AppId	String	Yes	No	The ID of the application.	None.
ClusterId	String	Yes	No	The ID of the cluster.	None.

Property	Type	Required	Editable	Description	Constraint
Scheduler	String	No	No	The scheduling algorithm.	Default value: rr. Valid values: • wrr: the weighted round-robin (WRR) scheduling algorithm. Backend servers that have higher weights receive more requests than backend servers that have lower weights. • rr: the round-robin (RR) scheduling algorithm: Requests are distributed to backend servers in sequence.
Specification	String	No	No	The specification of the SLB instance.	None.
LoadBalancerId	String	No	No	The ID of the SLB instance.	If you do not specify this property, Enterprise Distributed Application Service (EDAS) automatically purchases an SLB instance.
ServicePortInfos	List	Yes	No	The information about the ports. This property is required if you configure multiple ports or use a protocol other than TCP.	For more information, see ServicePortInfos properties.

ServicePortInfos syntax

```
"ServicePortInfos": [
  {
    "TargetPort": Integer,
    "LoadBalancerProtocol": String,
    "CertId": String,
    "Port": Integer
  }
]
```

ServicePortInfos properties

Property	Type	Required	Editable	Description	Constraint
TargetPort	Integer	Yes	No	The backend port.	Valid values: 1 to 65535.
LoadBalancerProtocol	String	Yes	No	The protocol that is used by the SLB instance.	Valid values: • TCP • HTTPS
CertId	String	No	No	The ID of the certificate.	This property is required when you set the LoadBalancerProtocol property to HTTPS.
Port	Integer	Yes	No	The frontend port.	Valid values: 1 to 65535.

Return values

Fn::GetAtt

- LoadBalancerName: the name of the SLB instance that is used in EDAS.
- Address: the IP address of the SLB instance.
- AppId: the ID of the application.
- ChangeOrderId: the ID of the change process.
- LoadBalancerId: the ID of the SLB instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Type": {
      "Type": "String",
      "Description": "The type of the SLB instance. Valid values: internet and intranet.",
      "AllowedValues": [
        "internet",
        "intranet"
      ],
      "Default": "internet"
    },
    "AppId": {
      "Type": "String",
      "Description": "The ID of the application."
      "Default": "5a166fbd-****-****-a286-781659d9f54c"
    },
    "ClusterId": {
      "Type": "String",
      "Description": "The ID of the cluster."
      "Default": "712082c3-f554-****-****-a947b5cde6ee"
    },
    "ServicePortInfos": {
      "Type": "Json",
      "Description": "The information about the ports.",
      "MinLength": 1,
      "Default": [
        {
          "TargetPort": 8080,
          "LoadBalancerProtocol": "TCP",
          "Port": 80
        }
      ]
    }
  },
  "Resources": {
    "K8sSlbBinding": {
      "Type": "ALIYUN::EDAS::K8sSlbBinding",
      "Properties": {
        "Type": {
          "Ref": "Type"
        },
        "AppId": {
          "Ref": "AppId"
        },
        "ClusterId": {
          "Ref": "ClusterId"
        },
        "ServicePortInfos": {
          "Ref": "ServicePortInfos"
        }
      }
    }
  },
  "Outputs": {
    "LoadBalancerName": {
      "Description": "The name of load balancer instance defined in EDAS.",
      "Value": {
        "Fn::GetAtt": [
          "K8sSlbBinding",
          "LoadBalancerName"
        ]
      }
    },
    "Address": {
      "Description": "The address of load balancer instance.",
      "Value": {
        "Fn::GetAtt": [
          "K8sSlbBinding",
          "Address"
        ]
      }
```

```
    },
    "AppId": {
      "Description": "The ID of the application.",
      "Value": {
        "Fn::GetAtt": [
          "K8sSlbBinding",
          "AppId"
        ]
      }
    },
    "ChangeOrderId": {
      "Description": "The ID of the change process.",
      "Value": {
        "Fn::GetAtt": [
          "K8sSlbBinding",
          "ChangeOrderId"
        ]
      }
    },
    "LoadBalancerId": {
      "Description": "The ID of load balancer instance.",
      "Value": {
        "Fn::GetAtt": [
          "K8sSlbBinding",
          "LoadBalancerId"
        ]
      }
    }
  }
}
```

28.8. ALIYUN::EDAS::UserDefineRegion

ALIYUN::EDAS::UserDefineRegion is used to create or edit a custom namespace.

Syntax

```
{
  "Type": "ALIYUN::EDAS::UserDefineRegion",
  "Properties": {
    "RegionName": String,
    "DebugEnable": Boolean,
    "Description": String,
    "RegionTag": String
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
RegionName	String	Yes	Yes	Logical region (namespace)	N/A
DebugEnable	Boolean	No	Yes	Indicates whether remote debugging is allowed in this region.	Valid values: • true • false
Description	String	No	Yes	Logical region (namespace) description	The description must be 1 to 64 characters in length.

Parameter	Data type	Required	Editable	Description	Constraint
RegionTag	String	Yes	No	Logical region (namespace) ID	After a resource is created, the resource group ID in the format of "physical region ID: logical region identifier" cannot be changed. The name of the logical region identifier must be 1 to 32 characters in length and can contain letters and digits.

Error code

Fn::GetAtt

- BelongRegion: The ID of the physical region.
- DebugEnable: Allows remote debugging.
- UserId: The tenant account of the user.
- Id: The ID of the logical region.
- RegionName: The name of the logical region (namespace).

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "UserDefineRegion": {
      "Type": "ALIYUN::EDAS::UserDefineRegion",
      "Properties": {
        "DebugEnable": {
          "Ref": "DebugEnable"
        },
        "Description": {
          "Ref": "Description"
        },
        "RegionTag": {
          "Ref": "RegionTag"
        },
        "RegionName": {
          "Ref": "RegionName"
        }
      }
    }
  },
  "Parameters": {
    "DebugEnable": {
      "Type": "Boolean",
      "Description": "Whether debug is enable",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "Logic region (or namespace) description"
    },
    "RegionTag": {
      "Type": "String",
      "Description": "Logic region (or namespace) ID (format: \"physical region ID: logical zone identifier\", or \"logical zon
e identifier\")"
    },
    "RegionName": {
```

```
      "Type": "String",
      "Description": "Logical region (or namespace) name"
    }
  },
  "Outputs": {
    "BelongRegion": {
      "Description": "Under the physical region ID",
      "Value": {
        "Fn::GetAtt": [
          "UserDefineRegion",
          "BelongRegion"
        ]
      }
    },
    "DebugEnable": {
      "Description": "Whether debug is enable",
      "Value": {
        "Fn::GetAtt": [
          "UserDefineRegion",
          "DebugEnable"
        ]
      }
    },
    "UserId": {
      "Description": "User account ID",
      "Value": {
        "Fn::GetAtt": [
          "UserDefineRegion",
          "UserId"
        ]
      }
    },
    "Id": {
      "Description": "Resource ID",
      "Value": {
        "Fn::GetAtt": [
          "UserDefineRegion",
          "Id"
        ]
      }
    },
    "RegionName": {
      "Description": "Region name",
      "Value": {
        "Fn::GetAtt": [
          "UserDefineRegion",
          "RegionName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  UserDefineRegion:
    Type: 'ALIYUN::EDAS::UserDefineRegion'
    Properties:
      DebugEnable:
        Ref: DebugEnable
      Description:
        Ref: Description
      RegionTag:
        Ref: RegionTag
      RegionName:
        Ref: RegionName
Parameters:
  DebugEnable:
    Type: Boolean
    Description: Whether debug is enable
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Description:
    Type: String
    Description: Logic region (or namespace) description
  RegionTag:
    Type: String
    Description: >-
      Logic region (or namespace) ID (format: "physical region ID: logical zone
      identifier", or "logical zone identifier")
  RegionName:
    Type: String
    Description: Logical region (or namespace) name
Outputs:
  BelongRegion:
    Description: Under the physical region ID
    Value:
      'Fn::GetAtt':
        -UserDefineRegion
        -BelongRegion
  DebugEnable:
    Description: Whether debug is enable
    Value:
      'Fn::GetAtt':
        -UserDefineRegion
        -DebugEnable
  UserId:
    Description: User account ID
    Value:
      'Fn::GetAtt':
        -UserDefineRegion
        -UserId
  Id:
    Description: Resource ID
    Value:
      'Fn::GetAtt':
        -UserDefineRegion
        -Id
  RegionName:
    Description: Region name
    Value:
      'Fn::GetAtt':
        -UserDefineRegion
        -RegionName
```

29.Elasticsearch

30.EHPC

30.1. ALIYUN::EHPC::Cluster

ALIYUN::EHPC::Cluster is used to create an Elastic High Performance Computing (E-HPC) cluster.

Syntax

```
{
  "Type": "ALIYUN::EHPC::Cluster",
  "Properties": {
    "EcsOrderComputeCount": Integer,
    "OsTag": String,
    "HaEnable": Boolean,
    "VolumeType": String,
    "VolumeId": String,
    "EcsOrderManagerCount": Integer,
    "EcsOrderManagerInstanceType": String,
    "EcsOrderComputeInstanceType": String,
    "Application": List,
    "KeyPairName": String,
    "PeriodUnit": String,
    "Description": String,
    "AutoRenewPeriod": Integer,
    "JobQueue": String,
    "ImageId": String,
    "AutoRenew": Boolean,
    "EhpcVersion": String,
    "VSwitchId": String,
    "Password": String,
    "Name": String,
    "SchedulerType": String,
    "SccClusterId": String,
    "EcsChargeType": String,
    "ZoneId": String,
    "EcsOrderLoginCount": Integer,
    "DeployMode": String,
    "ImageOwnerAlias": String,
    "RemoteDirectory": String,
    "ComputeSpotPriceLimit": String,
    "ComputeSpotStrategy": String,
    "SecurityGroupName": String,
    "KeyPairName": String,
    "VolumeProtocol": String,
    "SecurityGroupId": String,
    "Period": Integer,
    "PostInstallScript": List,
    "AccountType": String,
    "VolumeMountpoint": String,
    "EcsOrderLoginInstanceType": String,
    "SystemDiskLevel": String,
    "IsComputeEss": Boolean,
    "SystemDiskSize": Integer,
    "SystemDiskType": String,
    "AdditionalVolumes": List,
    "RemoteVisEnable": Boolean,
    "InputFileUrl": String,
    "WithoutElasticIp": Boolean,
    "ResourceGroupId": String,
    "ClientVersion": String,
    "ComputeEnableHt": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
EcsOrderComputeCount	Integer	Yes	No	The number of compute nodes in the cluster.	Valid values: 1 to 99.
OsTag	String	Yes	No	The image tag of the OS.	Example: CentOS_7.2_64.
HaEnable	Boolean	No	No	Specifies whether to enable high availability.	Default value: false. Valid values: • true: enables high availability. After you enable high availability, a primary management node and a secondary management node are used in the cluster. • false: disables high availability.
VolumeType	String	No	No	The type of the shared storage.	Set the value to NAS. The value specifies an Apsara File Storage NAS (NAS) file system.
KeyPairName	String	No	No	The name of the key pair.	You must specify the Password or KeyPairName property. If you specify both properties, the value of the Password property has a higher priority.
VolumeId	String	No	No	The ID of the Alibaba Cloud NAS file system.	None.
EcsOrderManagerCount	Integer	No	No	The number of management nodes in the cluster.	Valid values: • 1 • 2 • 4
EcsOrderManagerInstanceType	String	Yes	No	The instance type of the management node in the cluster.	None.
Application	List	No	No	The software.	For more information, see Application property.
EcsOrderComputeInstanceType	String	Yes	No	The instance type of the compute node in the cluster.	None.
PeriodUnit	String	No	No	The unit of the subscription duration of the cluster that you purchase.	Valid values: • Week • Month • Year
Description	String	No	Yes	The description of the cluster.	The description must be 2 to 128 characters in length.
AutoRenewPeriod	Integer	No	No	The auto-renewal period for the cluster.	This property takes effect when you set the AutoRenew property to true.
JobQueue	String	No	No	The queue to which you add the compute node.	None.

Property	Type	Required	Editable	Description	Constraint
ImageId	String	No	No	The ID of the image.	This property is required when you set the ImageOwnerAlias property to self, others, or marketplace. **Note** If you set the ImageOwnerAlias property to system, the ID of the base image varies only based on the value of the OsTag property.
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal.	Valid values: • true: enables auto-renewal. • false: does not enable auto-renewal.
EhpcVersion	String	No	No	The version of E-HPC.	By default, the latest version is used.
VSwitchId	String	Yes	No	The ID of the vSwitch.	E-HPC supports networks only of the virtual private cloud (VPC) type.
Password	String	No	No	The root password of the logon node.	The password must be 8 to 30 characters in length. The password must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `( ) ` ~ ! @ # $ % ^ & * - + = | { } [ ] : ; ' < > , . ? /`. You must specify the Password or KeyPairName property. If you specify both properties, the value of the Password property has a higher priority.
Name	String	Yes	Yes	The name of the cluster.	The name must be 2 to 64 characters in length, and can contain letters, digits, hyphens (-), and underscores (_). The name must start with a letter.
SchedulerType	String	No	No	The type of the scheduler.	Default value: pbs. Valid values: • pbs • slurm • opengridscheduler • deadline
SccClusterId	String	No	No	The ID of the Super Computing Cluster (SCC) instance.	If you specify the property, the existing SCC instance is managed in a new SCC cluster.
EcsChargeType	String	No	No	The billing method for the Elastic Compute Service (ECS) instance in the cluster.	Valid values: • PostPaid: pay-as-you-go • PrePaid: subscription **Note** If you set this property to PrePaid, the system enables auto-renewal by default. After the instance is released, the system disables auto-renewal.
ZoneId	String	No	No	The ID of the zone.	None.
EcsOrderLoginCount	Integer	Yes	No	The number of logon nodes in the cluster.	Valid values: 1 to 99.

Property	Type	Required	Editable	Description	Constraint
DeployMode	String	No	No	The deployment mode.	Default value: Standard. Valid values: • Standard: The account node, scheduling node, logon node, and compute node are deployed separately. • Simple: The account node and scheduling node are deployed on one node. The logon node and compute node are deployed separately. • Tiny: The account node, scheduling node, and logon node are deployed on one node. The compute node is deployed separately.
ImageOwnerAlias	String	No	No	The type of the image.	Valid values: • system: public image • self: custom image • others: shared image • marketplace: Alibaba Cloud Marketplace image
RemoteDirectory	String	No	No	The remote directory to which the NAS file system is mounted.	The mount point directory consists of the mount target and the remote directory: `NasMountpoint:/RemoteDirectory`.
ComputeSpotPriceLimit	String	No	No	The maximum hourly price of the compute node.	The value of this property is a floating-point number within the price range at the time of purchase.
ComputeSpotStrategy	String	No	No	The bidding policy for the compute node.	Default value: NoSpot. Valid values: • NoSpot: The compute node is created as a regular pay-as-you-go instance. • SpotWithPriceLimit: The compute node is created as a preemptible instance for which you specify the maximum hourly price. • SpotAsPriceGo: The compute node is created as a preemptible instance whose price is based on the market price at the time of purchase.
SecurityGroupName	String	No	No	The name of the security group.	If you do not use an existing security group, the system uses the value of this property as the name of a new security group. The default policy is applied to the new security group.
VolumeProtocol	String	No	No	The type of the protocol that is used by the NAS file system.	Valid values: • NFS: Network File System (NFS) • SMB: Server Message Block (SMB)
SecurityGroupId	String	No	No	The ID of the security group.	None.
Period	Integer	No	No	The subscription duration of the cluster that you purchase.	This property is required when you set the EcsChargeType property to PrePaid.
PostInstallScript	List	No	No	The download URLs and runtime parameters of the script.	You can specify up to 16 sets of download URLs and runtime parameters. For more information, see PostInstallScript properties.

Property	Type	Required	Editable	Description	Constraint
AccountType	String	No	No	The service type of the domain account.	Default value: nis. Valid values: • nis • ldap
VolumeMountpoint	String	No	No	The mount target of the NAS file system. The mount target is of the virtual private cloud (VPC) type.	The value of this property varies based on the value of the VolumeId property: • If you leave the VolumeId property empty, you can leave the VolumeMountpoint property empty. When you create a cluster, a mount target of the VPC type is created by default. • If you specify the VolumeId parameter property, you must specify the VolumeMountpoint property.
EcsOrderLoginInstanceType	String	Yes	No	The instance type of the logon node in the cluster.	None.
SystemDiskLevel	String	No	No	The performance level (PL) of the enhanced SSD (ESSD) that is used as the system disk.	Default value: PL1. Valid values: • PL0: An ESSD delivers up to 10,000 random read/write IOPS. • PL1: An ESSD delivers up to 50,000 random read/write IOPS. • PL2: An ESSD delivers up to 100,000 random read/write IOPS. • PL3: An ESSD delivers up to 1,000,000 random read/write IOPS.
IsComputeEss	Boolean	No	No	Specifies whether to enable auto scaling.	Default value: false. Valid values: • true: enables auto scaling. • false: disables auto scaling.
SystemDiskSize	Integer	No	No	The size of the system disk.	Valid values: 40 to 500. Unit: GB. Default value: 40.
SystemDiskType	String	No	No	The category of the system disk.	Default value: cloud_ssd. Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: ESSD
AdditionalVolumes	List	No	No	The details of the NAS file systems that are mounted.	For more information, see AdditionalVolumes properties.
RemoteVisEnable	Boolean	No	No	Specifies whether to enable Virtual Network Computing (VNC) that is used to manage a visualization service.	Default value: false. Valid values: • true: enables VNC. • false: disables VNC.
InputFileUrl	String	No	No	The URL of the job file that is uploaded to an Object Storage Service (OSS) bucket.	Example: `https://ehpc-tianshui.oss-cn-beijing.aliyuncs.com/test-u****/testlist_ehpc.sh` .

Property	Type	Required	Editable	Description	Constraint
WithoutElasticIp	Boolean	No	No	Specifies whether to use an elastic IP address (EIP) for the logon node.	Default value: false. Valid values: • true: uses an EIP. • false: does not use an EIP.
ResourceGroupId	String	No	No	The ID of the resource group.	None.
ClientVersion	String	No	No	The version of the client that is used for the cluster.	By default, the latest version is used.
ComputeEnableHt	Boolean	No	No	Specifies whether to enable hyper-threading for the compute node.	Default value: true. Valid values: • true: enables hyper-threading. • false: does not enable hyper-threading.

Application syntax

```
"Application": [
  {
    "Tag": String
  }
]
```

Application property

Property	Type	Required	Editable	Description	Constraint
Tag	String	Yes	No	The tag of the software.	Example: OpenMPI_11.1.

PostInstallScript syntax

```
"PostInstallScript": [
  {
    "Url": String,
    "Args": String
  }
]
```

PostInstallScript properties

Property	Type	Required	Editable	Description	Constraint
Url	String	No	No	The download URL of the script after the cluster is deployed.	None
Args	String	No	No	The runtime parameters of the script after the cluster is deployed.	None

AdditionalVolumes syntax

```
"AdditionalVolumes": [
  {
    "RemoteDirectory": String,
    "Location": String,
    "VolumeId": String,
    "LocalDirectory": String,
    "VolumeProtocol": String,
    "JobQueue": String,
    "VolumeType": String,
    "VolumeMountpoint": String
  }
]
```

AdditionalVolumes properties

Property	Type	Required	Editable	Description	Constraint
RemoteDirectory	String	No	No	The remote directory to which the NAS file system is mounted.	None.
Location	String	No	No	The type of the cluster on which the NAS file system is mounted.	Set the value to PublicCloud.
VolumeId	String	Yes	No	The ID of the NAS file system. none	None.
LocalDirectory	String	Yes	No	The local directory to which the NAS file system is mounted.	None.
VolumeProtocol	String	No	No	The type of the protocol that is used by the NAS file system.	Default value: NFS. Valid values: • NFS • SMB
JobQueue	String	No	No	The queue to which you add the compute node.	None.
VolumeType	String	No	No	The type of the shared storage.	Set the value to NAS.
VolumeMountpoint	String	Yes	No	The mount target of the NAS file system. The mount target is of the VPC type.	None.

Return values

Fn::GetAtt

- EcsInfo: the quantities and types of ECS instances that are used as nodes in the cluster. Example: `{"Manager": {"Count": 2, "InstanceType": "ecs.n1.large"}, "Compute": {"Count": 8, "InstanceType": "ecs.n1.large"}, "Login": {"Count": 1, "InstanceType": "ecs.n1.large"}}` .
- SecurityGroupId: the ID of the security group.
- ClusterId: the ID of the cluster.
- Name: the name of the cluster.

Examples

JSON format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
  "Parameters": {
    "VpcCidrBlock": {
      "Type": "String",
      "AllowedValues": [
        "192.168.0.0/16",
        "172.16.0.0/12",
        "10.0.0.0/8"
      ],
      "Label": {
        "en": "VPC CIDR Block",
      },
      "Default": "192.168.0.0/16"
    },
    "VSwitchCidrBlock": {
      "Type": "String",
      "Description": {
        "en": "Must be a sub-network segment of the proprietary network and is not occupied by other VSwitches."
      },
      "Label": {
        "en": "vSwitch CIDR Block"
      },
      "Default": "192.168.0.0/24"
    },
    "ZoneId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::Instance:ZoneId",
      "Label": {
        "en": "Availability Zone"
      }
    },
    "EcsOrderComputeCount": {
      "Type": "Number",
      "Label": {
        "en": "Compute Count",
      },
      "Description": {
        "en": "Ranges from: 1~99.",
      },
      "MinValue": 1,
      "MaxValue": 99,
      "Default": 1
    },
    "Password": {
      "NoEcho": true,
      "Type": "String",
      "Label": {
        "en": "Login Password",
      }
      "MinLength": 8,
      "MaxLength": 30
    },
    "EcsOrderLoginInstanceType": {
      "AssociationProperty": "ALIYUN::ECS::Instance::InstanceType",
      "AssociationPropertyMetadata": {
        "ZoneId": "ZoneId"
      },
      "Type": "String"
      "Label": {
        "en": "Login Instance Specifications",
      }
    },
    "EcsOrderLoginCount": {
      "Type": "Number",
      "Label": {
        "en": "Login Count",
      },
      "Description": {
        "en": "Ranges from: 1~99.",
      },
      "MinValue": 1,
      "MaxValue": 99,
      "Default": 1
    },
    "EcsOrderManagerInstanceType": {
```

```
      "AssociationProperty": "ALIYUN::ECS::Instance::InstanceType",
      "AssociationPropertyMetadata": {
        "ZoneId": "ZoneId"
      },
      "Type": "String"
      "Label": {
        "en": "Manager Instance Specifications",
      }
    },
    "EcsOrderComputeInstanceType": {
      "AssociationProperty": "ALIYUN::ECS::Instance::InstanceType",
      "AssociationPropertyMetadata": {
        "ZoneId": "ZoneId"
      },
      "Type": "String",
      "Label": {
        "en": "Compute Instance Specifications",
      }
    },
    "BucketName": {
      "Type": "String",
      "Label": {
        "en": "Bucket Name",
      },
      "Default": "test-ehpc"
    },
    "BucketAccessControl": {
      "Type": "String",
      "Label": {
        "en": "Access Control",
      },
      "AllowedValues": [
        "private",
        "public-read",
        "public-read-write"
      ],
      "Default": "public-read"
    },
    "BucketStorageClass": {
      "Type": "String",
      "Label": {
        "en": "Storage Type",
      },
      "AllowedValues": [
        "Standard",
        "IA",
        "Archive"
      ],
      "Default": "Standard"
    }
  },
  "Resources": {
    "Vpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": {
          "Ref": "VpcCidrBlock"
        },
        "VpcName": {
          "Fn::Join": [
            "-",
            [
              "Vpc",
              {
                "Ref": "ALIYUN::StackId"
              }
            ]
          ]
        }
      }
    },
    "VSwitch": {
      "Type": "ALIYUN::ECS::VSwitch",
      "Properties": {
```

```
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VpcId": {
          "Ref": "Vpc"
        },
        "CidrBlock": {
          "Ref": "VSwitchCidrBlock"
        },
        "VSwitchName": {
          "Fn::Join": [
            "-",
            [
              "VSwitch",
              "StackId",
              {
                "Ref": "ALIYUN::StackId"
              }
            ]
          ]
        }
      }
    },
    "AccessGroup": {
      "Type": "ALIYUN::NAS::AccessGroup",
      "Properties": {
        "AccessGroupType": "Vpc",
        "AccessGroupName": {
          "Fn::Join": [
            "-",
            [
              "AccessGroup",
              {
                "Ref": "ALIYUN::StackId"
              }
            ]
          ]
        }
      }
    },
    "FileSystem": {
      "Type": "ALIYUN::NAS::FileSystem",
      "Properties": {
        "ProtocolType": "NFS",
        "StorageType": "Capacity"
      }
    },
    "MountTarget": {
      "Type": "ALIYUN::NAS::MountTarget",
      "Properties": {
        "VpcId": {
          "Ref": "Vpc"
        },
        "FileSystemId": {
          "Ref": "FileSystem"
        },
        "VSwitchId": {
          "Ref": "VSwitch"
        },
        "NetworkType": "Vpc",
        "AccessGroupName": {
          "Ref": "AccessGroup"
        }
      }
    },
    "AccessRule": {
      "Type": "ALIYUN::NAS::AccessRule",
      "Properties": {
        "SourceCidrIp": "0.0.0.0/0",
        "AccessGroupName": {
          "Ref": "AccessGroup"
        }
      }
    },
```

```
    "Cluster": {
      "Type": "ALIYUN::EHPC::Cluster",
      "DependsOn": [
        "AccessRule",
        "FileSystem",
        "MountTarget",
        "OssBucket"
      ],
      "Properties": {
        "EcsOrderComputeCount": {
          "Ref": "EcsOrderComputeCount"
        },
        "OsTag": "CentOS_7.2_64",
        "Name": {
          "Fn::Join": [
            "-",
            [
              "Cluster",
              {
                "Ref": "ALIYUN::StackId"
              }
            ]
          ]
        },
        "EhpcVersion": "1.0.0",
        "VolumeId": {
          "Ref": "FileSystem"
        },
        "EcsOrderLoginCount": {
          "Ref": "EcsOrderLoginCount"
        },
        "VSwitchId": {
          "Ref": "VSwitch"
        },
        "VolumeMountpoint": {
          "Ref": "MountTarget"
        },
        "EcsOrderLoginInstanceType": {
          "Ref": "EcsOrderLoginInstanceType"
        },
        "EcsOrderManagerInstanceType": {
          "Ref": "EcsOrderManagerInstanceType"
        },
        "EcsOrderComputeInstanceType": {
          "Ref": "EcsOrderComputeInstanceType"
        },
        "Password": {
          "Ref": "Password"
        },
        "Application": [
          {
            "Tag": "VMD_1.9.3"
          },
          {
            "Tag": "LAMMPS-OPENMPI-31Mar17"
          }
        ]
      }
    },
    "OssBucket": {
      "Type": "ALIYUN::OSS::Bucket",
      "Properties": {
        "BucketName": {
          "Ref": "BucketName"
        },
        "AccessControl": {
          "Ref": "BucketAccessControl"
        },
        "StorageClass": {
          "Ref": "BucketStorageClass"
        },
        "Tags": {
          "Value": "021",
          "Key": "best_practice"
```

```
        }
      }
    }
  },
  "Outputs": {
    "MountTargetDomain": {
      "Description": {
        "en": "Mount point domain name",
      },
      "Value": {
        "Fn::GetAtt": [
          "MountTarget",
          "MountTargetDomain"
        ]
      }
    },
    "FileSystemId": {
      "Description": {
        "en": "ID of the file system created",
      },
      "Value": {
        "Fn::GetAtt": [
          "FileSystem",
          "FileSystemId"
        ]
      }
    }
  },
  "Description": {
    "en": "EHPC Industrial Simulation",
  },
  "Metadata": {
    "ALIYUN::ROS::Interface": {
      "ParameterGroups": [
        {
          "Parameters": [
            "ZoneId",
            "VpcCidrBlock",
            "VSwitchCidrBlock"
          ],
          "Label": {
            "default": {
              "en": "VPC",
            }
          }
        },
        {
          "Parameters": [
            "EcsOrderComputeCount",
            "EcsOrderComputeInstanceType",
            "EcsOrderLoginCount",
            "EcsOrderLoginInstanceType",
            "EcsOrderManagerInstanceType",
            "Password"
          ],
          "Label": {
            "default": {
              "en": "EHPC",
            }
          }
        },
        {
          "Parameters": [
            "BucketName",
            "BucketAccessControl",
            "BucketStorageClass"
          ],
          "Label": {
            "default": {
              "en": "OSS",
            }
          }
        }
      ],
      "TemplateTags": [
```

```
        "TemplateTags": [
        ]
      }
    }
  }
```

To view more examples, visit Cluster.json and Cluster.yml.

31.EMR

31.1. ALIYUN::EMR::ClusterServiceConfigs

ALIYUN::EMR::ClusterServiceConfigs is used to create or modify the configurations of a specified service in a cluster.

Syntax

```
{
  "Type": "ALIYUN::EMR::ClusterServiceConfigs",
  "Properties": {
    "ClusterId": String,
    "ServiceConfigs": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ClusterId	String	Yes	No	The ID of the cluster.	None
ServiceConfigs	List	Yes	Yes	The configurations of the server.	For more information, see ServiceConfigs properties.

ServiceConfigs syntax

```
"ServiceConfigs": [
  {
    "Comment": String,
    "GatewayClusterIdList": List,
    "ServiceName": String,
    "CustomConfigParams": String,
    "RefreshHostConfig": Boolean,
    "HostInstanceId": String,
    "ConfigType": String,
    "ConfigParams": String,
    "GroupId": String
  }
]
```

ServiceConfigs properties

Property	Type	Required	Editable	Description	Constraint
Comment	String	No	Yes	The description of the service.	None
GatewayClusterIdList	List	No	No	The list of gateway cluster IDs.	Separate multiple gateway cluster IDs with commas (,).
ServiceName	String	Yes	No	The name of the service.	None
CustomConfigParams	String	No	Yes	The custom configurations.	None
RefreshHostConfig	Boolean	No	No	Specifies whether to run the configure command immediately after the configurations are created or modified.	Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
HostInstanceId	String	No	Yes	The ID of the host instance. In most cases, this parameter is set to the ID of an Elastic Compute Service (ECS) instance.	None
ConfigType	String	No	No	The type of the configurations.	None
ConfigParams	String	Yes	Yes	The specified content of the configurations.	The parameter value is a JSON string.
GroupId	String	No	Yes	The ID of the host group.	None

Response parameters

Fn::GetAtt

ClusterId: the ID of the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ClusterId": {
      "Type": "String",
      "Description": "The ID of the cluster."
    },
    "ServiceConfigs": {
      "Type": "Json",
      "Description": "Server configs"
    }
  },
  "Resources": {
    "EMRClusterServiceConfigs": {
      "Type": "ALIYUN::EMR::ClusterServiceConfigs",
      "Properties": {
        "ClusterId": {
          "Ref": "ClusterId"
        },
        "ServiceConfigs": {
          "Ref": "ServiceConfigs"
        }
      }
    }
  },
  "Outputs": {
    "ClusterId": {
      "Description": "The ID of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "EMRClusterServiceConfigs",
          "ClusterId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ClusterId:
    Description: The ID of the cluster.
    Type: String
  ServiceConfigs:
    Description: Server configs
    Type: Json
Resources:
  EMRClusterServiceConfigs:
    Properties:
      ClusterId:
        Ref: ClusterId
      ServiceConfigs:
        Ref: ServiceConfigs
    Type: ALIYUN::EMR::ClusterServiceConfigs
Outputs:
  ClusterId:
    Description: The ID of the cluster.
    Value:
      Fn::GetAtt:
      - EMRClusterServiceConfigs
      - ClusterId
```

32.ENS

32.1. ALIYUN::ENS::Instance

ALIYUN::ENS::Instance is used to create an Edge Node Service (ENS) instance.

Syntax

```
{
  "Type": "ALIYUN::ENS::Instance",
  "Properties": {
    "AutoRenewPeriod": Integer,
    "KeyPairName": String,
    "PrivateIpAddress": String,
    "UserData": String,
    "IpType": String,
    "SystemDiskSize": Integer,
    "AutoRenew": String,
    "VSwitchId": String,
    "Period": Integer,
    "Quantity": Integer,
    "InternetChargeType": String,
    "ImageId": String,
    "PaymentType": String,
    "DataDiskSize": Integer,
    "EnsRegionId": String,
    "InstanceType": String,
    "HostName": String,
    "InstanceName": String,
    "UniqueSuffix": Boolean,
    "Password": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AutoRenewPeriod	Integer	No	No	The auto-renewal period for the instance.	This parameter is required when the AutoRenew parameter is set to True. Valid values: 1 to 12. Unit: months.
KeyPairName	String	No	No	The name of the key pair.	None
PrivateIpAddress	String	No	No	The internal IP address.	None
UserData	String	No	No	The user data.	None
IpType	String	No	No	The type of the IP address.	Default value: ipv4. Valid values: • ipv4 • ipv6 • ipv4Andipv6
SystemDiskSize	Integer	Yes	No	The size of the system disk.	Set the value to a multiple of 10. The minimum value is 20. Unit: GiB. Note The system disk size must be larger than the image size.

Property	Type	Required	Editable	Description	Constraint
AutoRenew	String	No	No	Specifies whether to enable auto-renewal for the instance.	Default value: False. Valid values: • True • False
VSwitchId	String	No	No	The ID of the vSwitch.	This parameter is required if the PrivateIpAddress parameter is specified.
Period	Integer	Yes	No	The subscription period of the instance.	Valid values: • 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • 12 Unit: months.
Quantity	Integer	Yes	No	The number of instances.	None
InternetChargeType	String	No	No	The billing method for network usage.	This parameter is required if you create instances for the first time. The existing billing method is used by default if you have created an instance. Valid values: • BandwidthByDay: daily peak bandwidth • 95BandwidthByMonth: monthly 95th percentile bandwidth
ImageId	String	Yes	No	The ID of the image file that is used to create the instance.	None
PaymentType	String	No	No	The billing method of the instance.	Set the value to Subscription.
DataDiskSize	Integer	Yes	No	The size of the data disk.	Valid values: 20 to 500. Unit: GiB.
EnsRegionId	String	Yes	No	The region ID of the instance.	None
InstanceType	String	Yes	No	The instance type.	None
HostName	String	No	No	The hostname of the instance.	The hostname cannot start or end with a period (.) or hyphen (-). It cannot contain consecutive periods (.) or hyphens (-). • For Windows instances, the hostname must be 2 to 15 characters in length and can contain letters, digits, and hyphens (-). It cannot contain periods (.) or contain only digits. • For instances that run other operating systems such as Linux, the hostname must be 2 to 64 characters in length. You can use periods (.) to separate the hostname into multiple segments. Each segment can contain letters, digits, and hyphens (-).

Property	Type	Required	Editable	Description	Constraint
InstanceName	String	No	No	The name of the instance.	The name must be 2 to 128 characters in length and can contain letters, digits, colons(:), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`. If this parameter is not specified, the instance ID is used.
UniqueSuffix	Boolean	No	No	Specifies whether to automatically append sequential suffixes to the hostnames specified by the HostName parameter and instance names specified by the InstanceName parameter.	The sequential suffix ranges from 001 to 999.
Password	String	No	No	The password that is used to log on to the instance.	The password must be 8 to 30 characters in length and must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `( ) ` ~ ! @ # $ % ^ & * - _ + = | { } [ ] : ; ' < > , . ? /`

Response parameters

Fn::GetAtt

- AutoRenewPeriod: the auto-renewal period for the instance.
- KeyPairName: the name of the key pair.
- PrivateIpAddress: the internal IP address.
- UserData: the user data.
- IpType: the type of the IP address.
- InstanceId: the ID of the instance.
- SystemDiskSize: the size of the system disk.
- AutoRenew: indicates whether auto-renewal is enabled.
- VSwitchId: the ID of the vSwitch.
- Period: the subscription period of the instance.
- Quantity: the number of instances.
- InternetChargeType: the billing method for network usage.
- PublicIps: the list of public IP addresses.
- PrivateIps: the list of private IP addresses.
- ImageId: the ID of the image file.
- PaymentType: the billing method of the instance.
- DataDiskSize: the size of the data disk.
- EnsRegionId: the region ID of the instance.
- InstanceType: the instance type.
- HostName: the hostname of the instance.
- InstanceName: the name of the instance.
- UniqueSuffix: indicates whether sequential suffixes are appended to the hostnames specified by the HostName parameter and instance names specified by the InstanceName parameter.

Examples

`JSON` format

```
{
```

```
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AutoRenewPeriod": {
      "Type": "Number",
      "Description": "The time period of auto renew. it will take effect. It could be 1, 2, 3, 6, 12. Default value is 1."
    },
    "KeyPairName": {
      "Type": "String",
      "Description": "SSH key pair name."
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "Private IP for the instance created."
    },
    "UserData": {
      "Type": "String",
      "Description": "User data to pass to instance. [1, 16KB] characters.User data should not be base64 encoded. If you want t
o pass base64 encoded string to the property, use function Fn::Base64Decode to decode the base64 string first."
    },
    "IpType": {
      "Type": "String",
      "Description": "ip type, It could be ipv4Andipv6,ipv4,ipv6.default value isi pv4."
    },
    "SystemDiskSize": {
      "Type": "Number",
      "Description": "Disk size of the system disk."
    },
    "AutoRenew": {
      "Type": "String",
      "Description": "Whether renew the fee automatically?it could be True,FalseDefault value is False."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch Id to create ens instance."
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. Unit is month, it could be from 1 to 9 or 12. Default value is 1."
    },
    "Quantity": {
      "Type": "Number",
      "Description": "number of instances to create."
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "Instance Charge type.it could be 95BandwidthByMonth, PayByBandwidth4thMonth."
    },
    "InstanceName": {
      "Type": "String",
      "Description": "Instance name"
    },
    "UniqueSuffix": {
      "Type": "Boolean",
      "Description": "Specifies whether to automatically append sequential suffixes to the hostnames specified by the HostName
parameter and instance names specified by the InstanceName parameter when you create multiple instances at a time. The sequenti
al suffix ranges from 001 to 999. Valid values:  true false Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "ImageId": {
      "Type": "String",
      "Description": "Image ID to create ens instance."
    },
    "PaymentType": {
      "Type": "String",
      "Description": "Payment Type.only support value Subscription."
    },
    "DataDiskSize": {
      "Type": "Number",
      "Description": "Disk size of the system disk, range from 20 to 500 GB. If you specify with your own image, make sure the
system disk size bigger than image size."
```

```
system disk size bigger than image size.
    },
    "EnsRegionId": {
      "Type": "String",
      "Description": "ENS Region Id."
    },
    "InstanceType": {
      "Type": "String",
      "Description": "ENS instance supported instance type, make sure it should be correct."
    },
    "HostName": {
      "Type": "String",
      "Description": "The hostname of the instance."
    },
    "Password": {
      "Type": "String",
      "Description": "Password of created ens instance. Must contain at least 3 types of special character, lower character, up
per character, number."
    }
  },
  "Resources": {
    "ENSInstance": {
      "Type": "ALIYUN::ENS::Instance",
      "Properties": {
        "AutoRenewPeriod": {
          "Ref": "AutoRenewPeriod"
        },
        "KeyPairName": {
          "Ref": "KeyPairName"
        },
        "PrivateIpAddress": {
          "Ref": "PrivateIpAddress"
        },
        "UserData": {
          "Ref": "UserData"
        },
        "IpType": {
          "Ref": "IpType"
        },
        "SystemDiskSize": {
          "Ref": "SystemDiskSize"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Period": {
          "Ref": "Period"
        },
        "Quantity": {
          "Ref": "Quantity"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "UniqueSuffix": {
          "Ref": "UniqueSuffix"
        },
        "ImageId": {
          "Ref": "ImageId"
        },
        "PaymentType": {
          "Ref": "PaymentType"
        },
        "DataDiskSize": {
          "Ref": "DataDiskSize"
        },
        "EnsRegionId": {
          "Ref": "EnsRegionId"
        },
```

```
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "HostName": {
          "Ref": "HostName"
        },
        "Password": {
          "Ref": "Password"
        }
      }
    }
  },
  "Outputs": {
    "AutoRenewPeriod": {
      "Description": "The time period of auto renew. it will take effect. It could be 1, 2, 3, 6, 12. Default value is 1.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "AutoRenewPeriod"
        ]
      }
    },
    "KeyPairName": {
      "Description": "SSH key pair name.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "KeyPairName"
        ]
      }
    },
    "PrivateIpAddress": {
      "Description": "Private IP for the instance created.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "PrivateIpAddress"
        ]
      }
    },
    "IpType": {
      "Description": "ip type, It could be ipv4Andipv6,ipv4,ipv6.default value isi pv4.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "IpType"
        ]
      }
    },
    "InstanceId": {
      "Description": "InstanceId.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "InstanceId"
        ]
      }
    },
    "SystemDiskSize": {
      "Description": "Disk size of the system disk.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "SystemDiskSize"
        ]
      }
    },
    "UserData": {
      "Description": "User data to pass to instance. [1, 16KB] characters.User data should not be base64 encoded. If you want t
o pass base64 encoded string to the property, use function Fn::Base64Decode to decode the base64 string first.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "UserData"
```

```
        ]
      }
    },
    "AutoRenew": {
      "Description": "Whether renew the fee automatically?it could be True,FalseDefault value is False.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "AutoRenew"
        ]
      }
    },
    "VSwitchId": {
      "Description": "The vSwitch Id to create ens instance.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "VSwitchId"
        ]
      }
    },
    "Quantity": {
      "Description": "number of instances to create.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "Quantity"
        ]
      }
    },
    "Period": {
      "Description": "Prepaid time period. Unit is month, it could be from 1 to 9 or 12. Default value is 1.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "Period"
        ]
      }
    },
    "InternetChargeType": {
      "Description": "Instance Charge type.it could be 95BandwidthByMonth, PayByBandwidth4thMonth.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "InternetChargeType"
        ]
      }
    },
    "InstanceName": {
      "Description": "Instance name",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "InstanceName"
        ]
      }
    },
    "PublicIps": {
      "Description": "Public IP",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "PublicIps"
        ]
      }
    },
    "UniqueSuffix": {
      "Description": "Specifies whether to automatically append sequential suffixes to the hostnames specified by the HostName
parameter and instance names specified by the InstanceName parameter when you create multiple instances at a time. The sequenti
al suffix ranges from 001 to 999. Valid values:  true false Default value: false.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "UniqueSuffix"
```

```
        ]
      }
    },
    "PrivateIps": {
      "Description": "Private IP",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "PrivateIps"
        ]
      }
    },
    "ImageId": {
      "Description": "Image ID to create ens instance.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "ImageId"
        ]
      }
    },
    "PaymentType": {
      "Description": "Payment Type.only support value Subscription.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "PaymentType"
        ]
      }
    },
    "DataDiskSize": {
      "Description": "Disk size of the system disk, range from 20 to 500 GB. If you specify with your own image, make sure the
system disk size bigger than image size.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "DataDiskSize"
        ]
      }
    },
    "InstanceType": {
      "Description": "ENS instance supported instance type, make sure it should be correct.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "InstanceType"
        ]
      }
    },
    "EnsRegionId": {
      "Description": "ENS Region Id.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "EnsRegionId"
        ]
      }
    },
    "HostName": {
      "Description": "The hostname of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "ENSInstance",
          "HostName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
```

```
Parameters:
  AutoRenew:
    Description: Whether renew the fee automatically?it could be True,FalseDefault
      value is False.
    Type: String
  AutoRenewPeriod:
    Description: The time period of auto renew. it will take effect. It could be 1,
      2, 3, 6, 12. Default value is 1.
    Type: Number
  DataDiskSize:
    Description: Disk size of the system disk, range from 20 to 500 GB. If you specify
      with your own image, make sure the system disk size bigger than image size.
    Type: Number
  EnsRegionId:
    Description: ENS Region Id.
    Type: String
  HostName:
    Description: The hostname of the instance.
    Type: String
  ImageId:
    Description: Image ID to create ens instance.
    Type: String
  InstanceName:
    Description: Instance name
    Type: String
  InstanceType:
    Description: ENS instance supported instance type, make sure it should be correct.
    Type: String
  InternetChargeType:
    Description: Instance Charge type.it could be 95BandwidthByMonth, PayByBandwidth4thMonth.
    Type: String
  IpType:
    Description: ip type, It could be ipv4Andipv6,ipv4,ipv6.default value isi pv4.
    Type: String
  KeyPairName:
    Description: SSH key pair name.
    Type: String
  Password:
    Description: Password of created ens instance. Must contain at least 3 types of
      special character, lower character, upper character, number.
    Type: String
  PaymentType:
    Description: Payment Type.only support value Subscription.
    Type: String
  Period:
    Description: Prepaid time period. Unit is month, it could be from 1 to 9 or 12.
      Default value is 1.
    Type: Number
  PrivateIpAddress:
    Description: Private IP for the instance created.
    Type: String
  Quantity:
    Description: number of instances to create.
    Type: Number
  SystemDiskSize:
    Description: Disk size of the system disk.
    Type: Number
  UniqueSuffix:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to automatically append sequential suffixes to
      the hostnames specified by the HostName parameter and instance names specified
      by the InstanceName parameter when you create multiple instances at a time.
      The sequential suffix ranges from 001 to 999. Valid values:  true false Default
      value: false.'
    Type: Boolean
  UserData:
    Description: User data to pass to instance. [1, 16KB] characters.User data should
      not be base64 encoded. If you want to pass base64 encoded string to the property,
      use function Fn::Base64Decode to decode the base64 string first.
    Type: String
  VSwitchId:
```

```
    Description: The vSwitch Id to create ens instance.
    Type: String
Resources:
  ENSInstance:
    Properties:
      AutoRenew:
        Ref: AutoRenew
      AutoRenewPeriod:
        Ref: AutoRenewPeriod
      DataDiskSize:
        Ref: DataDiskSize
      EnsRegionId:
        Ref: EnsRegionId
      HostName:
        Ref: HostName
      ImageId:
        Ref: ImageId
      InstanceName:
        Ref: InstanceName
      InstanceType:
        Ref: InstanceType
      InternetChargeType:
        Ref: InternetChargeType
      IpType:
        Ref: IpType
      KeyPairName:
        Ref: KeyPairName
      Password:
        Ref: Password
      PaymentType:
        Ref: PaymentType
      Period:
        Ref: Period
      PrivateIpAddress:
        Ref: PrivateIpAddress
      Quantity:
        Ref: Quantity
      SystemDiskSize:
        Ref: SystemDiskSize
      UniqueSuffix:
        Ref: UniqueSuffix
      UserData:
        Ref: UserData
      VSwitchId:
        Ref: VSwitchId
    Type: ALIYUN::ENS::Instance
Outputs:
  AutoRenew:
    Description: Whether renew the fee automatically?it could be True,FalseDefault
      value is False.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - AutoRenew
  AutoRenewPeriod:
    Description: The time period of auto renew. it will take effect. It could be 1,
      2, 3, 6, 12. Default value is 1.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - AutoRenewPeriod
  DataDiskSize:
    Description: Disk size of the system disk, range from 20 to 500 GB. If you specify
      with your own image, make sure the system disk size bigger than image size.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - DataDiskSize
  EnsRegionId:
    Description: ENS Region Id.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - EnsRegionId
```

```
  HostName:
    Description: The hostname of the instance.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - HostName
  ImageId:
    Description: Image ID to create ens instance.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - ImageId
  InstanceId:
    Description: InstanceId.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - InstanceId
  InstanceName:
    Description: Instance name
    Value:
      Fn::GetAtt:
      - ENSInstance
      - InstanceName
  InstanceType:
    Description: ENS instance supported instance type, make sure it should be correct.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - InstanceType
  InternetChargeType:
    Description: Instance Charge type.it could be 95BandwidthByMonth, PayByBandwidth4thMonth.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - InternetChargeType
  IpType:
    Description: ip type, It could be ipv4Andipv6,ipv4,ipv6.default value isi pv4.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - IpType
  KeyPairName:
    Description: SSH key pair name.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - KeyPairName
  PaymentType:
    Description: Payment Type.only support value Subscription.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - PaymentType
  Period:
    Description: Prepaid time period. Unit is month, it could be from 1 to 9 or 12.
      Default value is 1.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - Period
  PrivateIpAddress:
    Description: Private IP for the instance created.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - PrivateIpAddress
  PrivateIps:
    Description: Private IP
    Value:
      Fn::GetAtt:
      - ENSInstance
      - PrivateIps
  PublicIps:
```

```
    Description: Public IP
    Value:
      Fn::GetAtt:
      - ENSInstance
      - PublicIps
  Quantity:
    Description: number of instances to create.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - Quantity
  SystemDiskSize:
    Description: Disk size of the system disk.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - SystemDiskSize
  UniqueSuffix:
    Description: 'Specifies whether to automatically append sequential suffixes to
      the hostnames specified by the HostName parameter and instance names specified
      by the InstanceName parameter when you create multiple instances at a time.
      The sequential suffix ranges from 001 to 999. Valid values:  true false Default
      value: false.'
    Value:
      Fn::GetAtt:
      - ENSInstance
      - UniqueSuffix
  UserData:
    Description: User data to pass to instance. [1, 16KB] characters.User data should
      not be base64 encoded. If you want to pass base64 encoded string to the property,
      use function Fn::Base64Decode to decode the base64 string first.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - UserData
  VSwitchId:
    Description: The vSwitch Id to create ens instance.
    Value:
      Fn::GetAtt:
      - ENSInstance
      - VSwitchId
```

33.ESS

33.1. ALIYUN::ESS::AlarmTask

ALIYUN::ESS::AlarmTask is used to create a metric-based alarm task.

Syntax

```
{
  "Type": "ALIYUN::ESS::AlarmTask",
  "Properties": {
    "Statistics": String,
    "Name": String,
    "EvaluationCount": Integer,
    "Period": Integer,
    "MetricType": String,
    "ComparisonOperator": String,
    "Dimensions": List,
    "ScalingGroupId": String,
    "AlarmAction": List,
    "Threshold": Number,
    "MetricName": String,
    "GroupId": Integer,
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Statistics	String	No	No	The method used to calculate monitoring data. The statistics must be appropriate for the metric chosen.	Valid values: Average, Minimum, and Maximum. Default value: Average.
Name	String	No	Yes	The name of the alarm rule.	None
EvaluationCount	Integer	No	No	The number of consecutive times that the threshold must be exceeded before an alarm is triggered.	Default value: 3. Minimum value: 1.
Period	Integer	No	No	The metric query period, which must be appropriate for the metric chosen. Unit: seconds.	Valid values: 60, 120, 300, and 900. Default value: 300.
MetricType	String	No	No	The metric type.	Valid values: system and custom.
ComparisonOperator	String	No	No	The alarm comparison operator used to define a condition in the alarm rule.	Valid values: <=, <, >, and > =.
Dimensions	List	No	No	The list of instances associated with the alarm rule.	You must include at least one instance in the list.
ScalingGroupId	String	Yes	No	The ID of the scaling group.	None
AlarmAction	List	Yes	Yes	The list of alarm actions.	You must include one to five alarm actions in the list.
Threshold	Number	Yes	No	The alarm threshold, which must be a numeric value.	None
MetricName	String	Yes	No	The metric name of a service. For more information, see the metrics defined for each service.	None
GroupId	Integer	No	No	The group ID.	None

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the alarm task.	None

Dimensions syntax

```
"Dimensions": [
  {
    "DimensionKey": String,
    "DimensionValue": String
  }
]
```

Dimensions properties

Property	Type	Required	Editable	Description	Constraint
DimensionValue	String	Yes	No	None	None
DimensionKey	String	Yes	No	None	None

Response parameters

Fn::GetAtt

AlarmTaskId: the ID of the alarm task.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ComparisonOperator": {
      "Type": "String",
      "Description": "Comparison Operator",
      "AllowedValues": [
        ">=",
        "<=",
        ">",
        "<"
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "Description"
    },
    "ScalingGroupId": {
      "Type": "String",
      "Description": "The ID of the scaling group."
    },
    "MetricType": {
      "Type": "String",
      "Description": "Metric Type",
      "AllowedValues": [
        "system",
        "custom"
      ]
    },
    "EvaluationCount": {
      "Type": "Number",
      "Description": "Evaluation Count",
      "MinValue": 1
    },
    "Period": {
      "Type": "Number",
      "Description": "Period",
      "AllowedValues": [
        60,
        120,
        300,
        900
      ]
```

```
    },
    "Dimensions": {
      "Type": "CommaDelimitedList",
      "Description": "Dimensions",
      "MinLength": 1
    },
    "Statistics": {
      "Type": "String",
      "Description": "Statistics",
      "AllowedValues": [
        "Average",
        "Minimum",
        "Maximum"
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "Name"
    },
    "GroupId": {
      "Type": "Number",
      "Description": "Group Id"
    },
    "MetricName": {
      "Type": "String",
      "Description": "Metric Name"
    },
    "AlarmAction": {
      "Type": "CommaDelimitedList",
      "Description": "Alarm Actions",
      "MinLength": 1,
      "MaxLength": 5
    },
    "Threshold": {
      "Type": "Number",
      "Description": "Threshold"
    }
  },
  "Resources": {
    "AlarmTask": {
      "Type": "ALIYUN::ESS::AlarmTask",
      "Properties": {
        "ComparisonOperator": {
          "Ref": "ComparisonOperator"
        },
        "Description": {
          "Ref": "Description"
        },
        "ScalingGroupId": {
          "Ref": "ScalingGroupId"
        },
        "MetricType": {
          "Ref": "MetricType"
        },
        "EvaluationCount": {
          "Ref": "EvaluationCount"
        },
        "Period": {
          "Ref": "Period"
        },
        "Dimensions": {
          "Fn::Split": [
            ",",
            {
              "Ref": "Dimensions"
            },
            {
              "Ref": "Dimensions"
            }
          ]
        },
        "Statistics": {
          "Ref": "Statistics"
        },
```

```
        "Name": {
          "Ref": "Name"
        },
        "GroupId": {
          "Ref": "GroupId"
        },
        "MetricName": {
          "Ref": "MetricName"
        },
        "AlarmAction": {
          "Fn::Split": [
            ",",
            {
              "Ref": "AlarmAction"
            },
            {
              "Ref": "AlarmAction"
            }
          ]
        },
        "Threshold": {
          "Ref": "Threshold"
        }
      }
    }
  },
  "Outputs": {
    "AlarmTaskId": {
      "Description": "The alarm task ID",
      "Value": {
        "Fn::GetAtt": [
          "AlarmTask",
          "AlarmTaskId"
        ]
      }
    }
  }
}
```

33.2. ALIYUN::ESS::AlarmTaskEnable

ALIYUN::ESS::AlarmTaskEnable is used to enable a disabled alarm task.

Syntax

```
{
  "Type": "ALIYUN::ESS::AlarmTaskEnable",
  "Properties": {
    "AlarmTaskId": String,
    "Enable": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AlarmTaskId	String	Yes	No	The ID of the alarm task.	None
Enable	Boolean	Yes	Yes	Specifies whether to enable the alarm task.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Enable": {
      "Type": "Boolean",
      "Description": "Enable alarm task or not",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "AlarmTaskId": {
      "Type": "String",
      "Description": "The id of alarm task."
    }
  },
  "Resources": {
    "AlarmTaskEnable": {
      "Type": "ALIYUN::ESS::AlarmTaskEnable",
      "Properties": {
        "Enable": {
          "Ref": "Enable"
        },
        "AlarmTaskId": {
          "Ref": "AlarmTaskId"
        }
      }
    }
  },
  "Outputs": {}
}
```

33.3. ALIYUN::ESS::LifecycleHook

ALIYUN::ESS::LifecycleHook is used to create a lifecycle hook for a scaling group.

Syntax

```
{
  "Type": "ALIYUN::ESS::LifecycleHook",
  "Properties": {
    "LifecycleHookName": String,
    "NotificationArn": String,
    "HeartbeatTimeout": Integer,
    "NotificationMetadata": String,
    "ScalingGroupId": String,
    "DefaultResult": String,
    "LifecycleTransition": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LifecycleHookName	String	No	Yes	The name of the lifecycle hook. Each name must be unique within a scaling group.	The name must be 2 to 40 characters in length and can contain letters, digits, underscores (_), hyphens (-), and periods (.). It must start with a letter or digit. The default value is the ID of the lifecycle hook.

Property	Type	Required	Editable	Description	Constraint
NotificationArn	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the notification receiver that Auto Scaling uses to notify you when an instance is in the transition state for the lifecycle hook.	This receiver can be an OOS template, MNS queue, or MNS topic. Format: `acs:ess:{region}:{account-id}:{resource-relative-id}`. • `region`: the region in which the scaling group is deployed. • `account-id`: the ID of the Alibaba Cloud account. Examples: • MNS queue: `acs:ess:{region}:{account-id}:queue/{queuename}` • MNS topic: `acs:ess:{region}:{account-id}:topic/{topicname}` • OOS template: `acs:ess:{region}:{account-id}:oos/{template_name}`
HeartbeatTimeout	Integer	No	Yes	The waiting period before the lifecycle hook times out. When the lifecycle hook times out, the scaling group performs the action specified by the DefaultResult parameter. Unit: seconds. After you create a lifecycle hook, you can call the RecordLifecycleActionHeartbeat operation to extend the timeout period and keep the ECS instance in the wait state. You can also call the CompleteLifecycleAction operation to terminate the wait state of a scaling activity.	Valid values: 30 to 21600. Unit: seconds. Default value: 600.

Property	Type	Required	Editable	Description	Constraint
NotificationMetadata	String	No	Yes	The fixed string that you want to include when Auto Scaling sends a message about the wait state of a scaling activity to the notification receiver.	The string can be up to 128 characters in length. Auto Scaling sends the specified `NotificationMetadata` parameter value along with the notification message so that you can easily categorize your notifications. The `NotificationMetadata` parameter takes effect only when you specify the `NotificationArn` parameter.
ScalingGroupId	String	Yes	No	The ID of the scaling group.	None
DefaultResult	String	No	Yes	The action that the scaling group takes when the lifecycle hook times out. If the scaling group has multiple lifecycle hooks and one of them is terminated when `DefaultResult` is set to ABANDON during a `scale-in` event, the remaining lifecycle hooks within the same scaling group are also terminated. Otherwise, the scaling activity proceeds normally after the wait period times out and continues with the action specified by the DefaultResult parameter.	Default value: CONTINUE. Valid values: • CONTINUE: The scaling group continues to respond to a scale-in or scale-out event. • ABANDON: The scaling group releases the created ECS instances if the scaling activity type is scale-out or removes the ECS instances to be scaled in if the scaling activity type is scale-in.
LifecycleTransition	String	Yes	Yes	The type of scaling activity to which the lifecycle hook applies.	Valid values: • SCALE_OUT: scale-out events of the scaling group • SCALE_IN: scale-in events of the scaling group

Response parameters

Fn::GetAtt

LifecycleHookId: the ID of the lifecycle hook.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LifecycleHookName": {
```

```
      "Type": "String",
      "Description": "The name of the lifecycle hook. Each name must be unique within a scaling group. The name must be 2 to 40 characters in length and can contain letters, numbers, Chinese characters, and special characters including underscores (_), hyphens (-) and periods (.).\nDefault value: Lifecycle Hook ID",
      "AllowedPattern": "^[a-zA-Z0-9\\u4e00-\\u9fa5][-_.a-zA-Z0-9\\u4e00-\\u9fa5]{1,63}$"
    },
    "NotificationArn": {
      "Type": "String",
      "Description": "The Alibaba Cloud Resource Name (ARN) of the notification target that Auto Scaling will use to notify you when an instance is in the transition state for the lifecycle hook. This target can be either an MNS queue or an MNS topic. The format of the parameter value is acs:ess:{region}:{account-id}:{resource-relative-id}.\nregion: the region to which the scaling group locates\naccount-id: Alibaba Cloud ID\nFor example:\nMNS queue: acs:ess:{region}:{account-id}:queue/{queuename}\nMNS topic: acs:ess:{region}:{account-id}:topic/{topicname}\nOOS template: acs:ess:{region}:{account-id}:oos/{templatename}",
      "AllowedPattern": "^acs:ess:([a-zA-Z0-9-]+):(\\d+):(queue|topic|oos)/([a-zA-Z0-9][-_a-zA-Z0-9]{0,255})$",
      "MaxLength": 300
    },
    "ScalingGroupId": {
      "Type": "String",
      "Description": "The ID of the scaling group."
    },
    "LifecycleTransition": {
      "Type": "String",
      "Description": "The scaling activities to which lifecycle hooks apply Value range:\n SCALE_OUT: scale-out event\n SCALE_IN: scale-in event",
      "AllowedValues": [
        "SCALE_OUT",
        "SCALE_IN"
      ]
    },
    "HeartbeatTimeout": {
      "Type": "Number",
      "Description": "The time, in seconds, that can elapse before the lifecycle hook times out. If the lifecycle hook times out, the scaling group performs the default action (DefaultResult). The range is from 30 to 21,600 seconds. The default value is 600 seconds.\nYou can prevent the lifecycle hook from timing out by calling the RecordLifecycleActionHeartbeat operation. You can also terminate the lifecycle action by calling the CompleteLifecycleAction operation.",
      "MinValue": 30,
      "MaxValue": 21600
    },
    "NotificationMetadata": {
      "Type": "String",
      "Description": "The fixed string that you want to include when Auto Scaling sends a message about the wait state of the scaling activity to the notification target. The length of the parameter can be up to 256 characters. Auto Scaling will send the specified NotificationMetadata parameter along with the notification message so that you can easily categorize your notifications. The NotificationMetadata parameter will only take effect after you specify the NotificationArn parameter.",
      "MaxLength": 256
    },
    "DefaultResult": {
      "Type": "String",
      "Description": "The action that the scaling group takes when the lifecycle hook times out. Value range:\n CONTINUE: the scaling group continues with the scale-in or scale-out process.\n ABANDON: the scaling group stops any remaining action of the scale-in or scale-out event.\nDefault value: CONTINUE\nIf the scaling group has multiple lifecycle hooks and one of them is terminated by the DefaultResult=ABANDON parameter during a scale-in event (SCALE_IN), the remaining lifecycle hooks under the same scaling group will also be terminated. Otherwise, the action following the wait state is the next action, as specified in the parameter DefaultResult, after the last lifecycle event under the same scaling group.",
      "AllowedValues": [
        "CONTINUE",
        "ABANDON"
      ]
    }
  },
  "Resources": {
    "LifecycleHook": {
      "Type": "ALIYUN::ESS::LifecycleHook",
      "Properties": {
        "LifecycleHookName": {
          "Ref": "LifecycleHookName"
        },
        "NotificationArn": {
          "Ref": "NotificationArn"
        },
        "ScalingGroupId": {
          "Ref": "ScalingGroupId"
        },
        "LifecycleTransition": {
```

```
          "Ref": "LifecycleTransition"
        },
        "HeartbeatTimeout": {
          "Ref": "HeartbeatTimeout"
        },
        "NotificationMetadata": {
          "Ref": "NotificationMetadata"
        },
        "DefaultResult": {
          "Ref": "DefaultResult"
        }
      }
    }
  },
  "Outputs": {
    "LifecycleHookId": {
      "Description": "The lifecycle hook ID",
      "Value": {
        "Fn::GetAtt": [
          "LifecycleHook",
          "LifecycleHookId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  LifecycleHookName:
    Type: String
    Description: >-
      The name of the lifecycle hook. Each name must be unique within a scaling
      group. The name must be 2 to 40 characters in length and can contain
      letters, numbers, Chinese characters, and special characters including
      underscores (_), hyphens (-) and periods (.).
      Default value: Lifecycle Hook ID
    AllowedPattern: '^[a-zA-Z0-9\u4e00-\u9fa5][-_.a-zA-Z0-9\u4e00-\u9fa5]{1,63}$'
  NotificationArn:
    Type: String
    Description: >-
      The Alibaba Cloud Resource Name (ARN) of the notification target that Auto
      Scaling will use to notify you when an instance is in the transition state
      for the lifecycle hook. This target can be either an MNS queue or an MNS
      topic. The format of the parameter value is
      acs:ess:{region}:{account-id}:{resource-relative-id}.
      region: the region to which the scaling group locates
      account-id: Alibaba Cloud ID
      For example:
      MNS queue: acs:ess:{region}:{account-id}:queue/{queuename}
      MNS topic: acs:ess:{region}:{account-id}:topic/{topicname}
      OOS template: acs:ess:{region}:{account-id}:oos/{templatename}
    AllowedPattern: >-
      ^acs:ess:([a-zA-Z0-9-]+):(\d+):(queue|topic|oos)/([a-zA-Z0-9][-_a-zA-Z0-9]{0,255})$
    MaxLength: 300
  ScalingGroupId:
    Type: String
    Description: The ID of the scaling group.
  LifecycleTransition:
    Type: String
    Description: |-
      The scaling activities to which lifecycle hooks apply Value range:
       SCALE_OUT: scale-out event
       SCALE_IN: scale-in event
    AllowedValues:
      - SCALE_OUT
      - SCALE_IN
  HeartbeatTimeout:
    Type: Number
    Description: >-
      The time, in seconds, that can elapse before the lifecycle hook times out.
      If the lifecycle hook times out, the scaling group performs the default
```

```
      If the lifecycle hook times out, the scaling group performs the default
      action (DefaultResult). The range is from 30 to 21,600 seconds. The
      default value is 600 seconds.
      You can prevent the lifecycle hook from timing out by calling the
      RecordLifecycleActionHeartbeat operation. You can also terminate the
      lifecycle action by calling the CompleteLifecycleAction operation.
    MinValue: 30
    MaxValue: 21600
  NotificationMetadata:
    Type: String
    Description: >-
      The fixed string that you want to include when Auto Scaling sends a
      message about the wait state of the scaling activity to the notification
      target. The length of the parameter can be up to 256 characters. Auto
      Scaling will send the specified NotificationMetadata parameter along with
      the notification message so that you can easily categorize your
      notifications. The NotificationMetadata parameter will only take effect
      after you specify the NotificationArn parameter.
    MaxLength: 256
  DefaultResult:
    Type: String
    Description: >-
      The action that the scaling group takes when the lifecycle hook times out.
      Value range:
       CONTINUE: the scaling group continues with the scale-in or scale-out process.
       ABANDON: the scaling group stops any remaining action of the scale-in or scale-out event.
      Default value: CONTINUE
      If the scaling group has multiple lifecycle hooks and one of them is
      terminated by the DefaultResult=ABANDON parameter during a scale-in event
      (SCALE_IN), the remaining lifecycle hooks under the same scaling group
      will also be terminated. Otherwise, the action following the wait state is
      the next action, as specified in the parameter DefaultResult, after the
      last lifecycle event under the same scaling group.
    AllowedValues:
      - CONTINUE
      - ABANDON
Resources:
  LifecycleHook:
    Type: 'ALIYUN::ESS::LifecycleHook'
    Properties:
      LifecycleHookName:
        Ref: LifecycleHookName
      NotificationArn:
        Ref: NotificationArn
      ScalingGroupId:
        Ref: ScalingGroupId
      LifecycleTransition:
        Ref: LifecycleTransition
      HeartbeatTimeout:
        Ref: HeartbeatTimeout
      NotificationMetadata:
        Ref: NotificationMetadata
      DefaultResult:
        Ref: DefaultResult
Outputs:
  LifecycleHookId:
    Description: The lifecycle hook ID
    Value:
      'Fn::GetAtt':
        - LifecycleHook
        - LifecycleHookId
```

33.4. ALIYUN::ESS::ScalingConfiguration

ALIYUN::ESS::ScalingConfiguration is used to create a scaling configuration for a scaling group.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScalingConfiguration",
  "Properties": {
    "PasswordInherit": Boolean,
    "DiskMappings": List,
    "RamRoleName": String,
    "IoOptimized": String,
    "InternetChargeType": String,
    "KeyPairName": String,
    "InstanceId": String,
    "InstanceTypes": List,
    "ImageId": String,
    "ResourceGroupId": String,
    "SpotStrategy": String,
    "InstanceType": String,
    "SystemDiskCategory": String,
    "SystemDiskSize": Integer,
    "SystemDiskAutoSnapshotPolicyId": String,
    "SystemDiskPerformanceLevel": String,
    "InternetMaxBandwidthOut": Integer,
    "InstanceName": String,
    "InternetMaxBandwidthIn": Integer,
    "ScalingConfigurationName": String,
    "UserData": String,
    "DeploymentSetId": String,
    "SecurityGroupId": String,
    "SpotPriceLimit": Number,
    "HpcClusterId": String,
    "ScalingGroupId": String,
    "SpotPriceLimitForInstanceType": Map,
    "TagList": List,
    "Ipv6AddressCount": Integer,
    "LoadBalancerWeight": Integer,
    "CreditSpecification": String,
    "ImageFamily": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the instance belongs.	None
DeploymentSetId	String	No	No	The ID of the deployment set.	None
HpcClusterId	String	No	No	The ID of the E-HPC cluster to which the instance belongs.	None
ScalingGroupId	String	Yes	No	The ID of the scaling group to which the scaling configuration belongs.	None
DiskMappings	List	No	Yes	The disks to be attached to the instance.	A maximum of 16 data disks can be attached. For more information, see DiskMappings properties.
InternetChargeType	String	No	Yes	The billing method for network usage.	Default value: PayByTraffic. Valid values: • PayByBandwidth • PayByTraffic

Property	Type	Required	Editable	Description	Constraint
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound public bandwidth.	Unit: Mbit/s. Valid values: 1 to 200. Default value: 200.
InternetMaxBandwidthOut	Integer	No	Yes	The maximum outbound public bandwidth.	Valid values: • Valid values when InternetChargeType is set to PayByBandwidth: 0 to 100. Default value: 0. • Valid values when InternetChargeType is set to PayByTraffic: 1 to 100. This parameter is required when the InternetChargeType parameter is set to PayByTraffic. Unit: Mbit/s.
InstanceId	String	No	No	The ID of the instance whose properties are used to create the scaling configuration.	None
SystemDiskCategory	String	No	Yes	The category of the system disk.	Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: standard SSD • ephemeral_ssd: local SSD • cloud_essd: enhanced SSD (ESSD) The default value is cloud for non-I/O optimized instances of the Generation I instance types. The default value is cloud_efficiency for other types of instances.
ImageId	String	No	Yes	The ID of the image that is used to create the instance. You can use a public image, a custom image, or an Alibaba Cloud Marketplace image.	For more information, see Overview.
InstanceType	String	No	Yes	The instance type.	For more information, see Instance family.
SecurityGroupId	String	No	Yes	The ID of the security group to which the instance belongs.	None
IoOptimized	String	No	Yes	Specifies whether the instance is I/O optimized.	Default value: none. Valid values: • none • optimized

Property	Type	Required	Editable	Description	Constraint
ScalingConfigurationName	String	No	Yes	The name of the scaling configuration.	The name must be 2 to 64 characters in length and can contain letters, digits, underscores (_), hyphens (-), and periods (.). It must start with a letter or digit. The name of the scaling configuration must be unique within a scaling group in a specific region. If you do not specify this parameter, the system uses the ID of the scaling configuration.
KeyPairName	String	No	Yes	The name of the key pair that is used to connect to the instance.	• For Windows instances, this parameter is ignored and is empty by default. • For Linux instances, the password logon method is disabled during initialization.
RamRoleName	String	No	Yes	The Resource Access Management (RAM) role name of the instance.	You can call the ListRoles operation to query the role name. For more information, see CreateRole and ListRoles.
SystemDiskSize	Integer	No	Yes	The size of the system disk.	Valid values: 20 to 500. Default value: 40. Unit: GiB. If a custom image is used to create a system disk, make sure that the size of the system disk is greater than or equal to that of the custom image.
SystemDiskPerformanceLevel	String	No	Yes	The performance level of the ESSD that is used as the system disk.	Default value: PL1. Valid values: • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS. For more information about performance levels of ESSDs, see ESSDs.
UserData	String	No	Yes	The user data that you provide when you create the instance.	The user data can be up to 16 KB in size. You do not need to convert the data into Base64-encoded strings. If the data contains special characters, add a backslash (\) immediately before each special character.
InstanceTypes	List	No	Yes	The instance types from which instances can be created.	If you specify this parameter, the InstanceType parameter is ignored. A maximum of 10 instance types can be specified. The priority is determined in descending order of instance types in the list. Auto Scaling creates instances in order of priority. When an instance type that has the highest priority cannot be used to create an instance, the instance type that has the next highest priority is used.
PasswordInherit	Boolean	No	Yes	Specifies whether to use the password preset in the image.	To use this parameter, make sure that a password is preset in the specified image.

Property	Type	Required	Editable	Description	Constraint
TagList	List	No	Yes	The tags of the instance.	A tag is a key-value pair. You can specify a maximum of five tags in the `{"key1": "value1", "key2": "value2", ... "key5": "value5"}` format. For more information, see TagList properties.
Ipv6AddressCount	Integer	No	Yes	The number of randomly generated IPv6 addresses that are assigned to the elastic network interface (ENI).	None
LoadBalancerWeight	Integer	No	Yes	The weight of the Elastic Compute Service (ECS) instance when it is used as a Server Load Balancer (SLB) backend server.	Valid values: 1 to 100. Default value: 50.
CreditSpecification	String	No	Yes	The performance mode of the burstable instance.	Default value: unlimited. Valid values: • Unlimited: unlimited mode • Standard: standard mode For more information about instance performance, see Performance modes.
ImageFamily	String	No	Yes	The name of the image family.	You can set this parameter to obtain the latest available custom images within the specified image family. The images are used to create ECS instances. If you have set the ImageId parameter, you cannot set the ImageFamily parameter.
SpotStrategy	String	No	Yes	The preemption policy to be applied to pay-as-you-go instances.	Default value: NoSpot. Valid values: • NoSpot: applies to regular pay-as-you-go instances. • SpotWithPriceLimit: applies to preemptible instances that have user-defined maximum hourly prices. • SpotAsPriceGo: applies to pay-as-you-go instances that are of the market price at the time of purchase.
InstanceName	String	No	Yes	The name of the instance that is created based on the current scaling configuration.	None
SpotPriceLimit	Number	No	Yes	The maximum hourly price for the instance.	A maximum of three decimal places can be specified. This parameter takes effect only when the SpotStrategy parameter is set to SpotWithPriceLimit. The value of this parameter can be overwritten by the value of SpotPriceLimitForInstanceType.

Property	Type	Required	Editable	Description	Constraint
SpotPriceLimitForInstanceType	Map	No	Yes	The maximum spot price for each instance type.	Specify the value in the `{"<instance_type_1>": <price_limit_1>, ..., {"<instance_type_10>": <price_limit_10>}` format. This parameter takes effect only when the SpotStrategy parameter is set to SpotWithPriceLimit. You can configure up to 10 pairs of instance types and spot prices.
SystemDiskAutoSnapshotPolicyId	String	No	Yes	The ID of the automatic snapshot policy applied to the system disk.	None

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "AutoSnapshotPolicyId": String,
    "PerformanceLevel": String,
    "Encrypted": String,
    "KMSKeyId": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String
  }
]
```

DiskMappings properties

Property	Type	Required	Editable	Description	Constraint
Size	String	No	No	The size of the data disk.	Valid values: • Valid values when Category is set to cloud: 5 to 2000. • Valid values when Category is set to cloud_efficiency: 20 to 32768. • Valid values when DiskCategory is set to cloud_ssd: 20 to 32768. • Valid values when Category is set to cloud_essd: 20 to 32768. • Valid values when Category is set to ephemeral_ssd: 5 to 800. Unit: GB. If you specify this parameter, the data disk size must be greater than or equal to the size of the snapshot that is specified by SnapshotId.

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The category of the data disk.	Default value: cloud_efficiency. Valid values: • cloud: basic disk • cloud_efficiency: ultra disk • cloud_ssd: standard SSD • ephemeral_ssd: local SSD • cloud_essd: ESSD For I/O optimized instances, the default value is cloud_efficiency. For non-I/O optimized instances, the default value is cloud.
DiskName	String	No	No	The name of the data disk.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
PerformanceLevel	String	No	No	The performance level of the ESSD that is used as the data disk.	Default value: PL1. Valid values: • PL1: A single ESSD can deliver up to 50,000 random read/write IOPS. • PL2: A single ESSD can deliver up to 100,000 random read/write IOPS. • PL3: A single ESSD can deliver up to 1,000,000 random read/write IOPS. For more information about performance levels of ESSDs, see ESSDs.
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. It cannot start with `http://` or `https://`.
Device	String	No	No	The device name of the data disk.	If you do not specify this parameter, the system allocates a device name in alphabetical order from `/dev/xvdb` to `/dev/xvdz`.
SnapshotId	String	No	No	The ID of the snapshot that is used to create the data disk.	If you specify this parameter, the Size parameter is ignored. The actual size of the created disk is the size of the specified snapshot. If you specify a snapshot that was created on or before July 15, 2013, the operation fails and returns InvalidSnapshot.TooOld.
Encrypted	String	No	No	Specifies whether the data disk is encrypted.	Default value: false. Valid values: • true: The data disk is encrypted. • false: The data disk is not encrypted.
KMSKeyId	String	No	No	The ID of the Key Management Service (KMS) key corresponding to the data disk.	None
AutoSnapshotPolicyId	String	No	No	The ID of the automatic snapshot policy applied to the data disk.	None

TagList syntax

```
"TagList": [
  {
    "Key": String,
    "Value": String
  }
]
```

TagList properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 64 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

ScalingConfigurationId: the ID of the scaling configuration. This ID is a GUID that is generated by the system.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ScalingConfigurationName": {
      "Type": "String",
      "Description": "Name of created scaling configuration."
    },
    "DiskMappings": {
      "Type": "Json",
      "Description": "Disk mappings to attach to instance."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "SystemDiskSize": {
      "Type": "Number",
      "Description": "Size of system disk. Unit is GB.",
      "MinValue": 20
    },
    "UserData": {
      "Type": "String",
      "Description": "User data to pass to instance. [1, 16KB] characters.User data should not be base64 encoded. If you want t
o pass base64 encoded string to the property, use function Fn::Base64Decode to decode the base64 string first."
    },
    "SystemDiskAutoSnapshotPolicyId": {
      "Type": "String",
      "Description": "Auto snapshot policy ID."
    },
    "RamRoleName": {
      "Type": "String",
      "Description": "Instance RAM role name. The name is provided and maintained by Resource Access Management (RAM) and can b
e queried using ListRoles. For more information, see RAM API CreateRole and ListRoles."
    },
    "SystemDiskPerformanceLevel": {
      "Type": "String",
      "Description": "The performance level of an ESSD."
    },
    "SpotPriceLimitForInstanceType": {
      "Type": "Json",
      "Description": "Set the hourly maximum price for the instance of specified instance type.\nThe parameter takes effect onl
y when the value of SpotStrategy is SpotWithPriceLimit.\nYou should input the information of the tag with the format of the Key
-Value, such as {\"key1\":\"value1\",\"key2\":\"value2\",      \"key5\":\"value5\"} \nAt most 50 items can be specified \nKey\n\
```

```
tecs instance type\nValue\n\tSupports a maximum of 3 decimal places."
    },
    "Ipv6AddressCount": {
      "Type": "Number",
      "Description": "The number of randomly generated IPv6 addresses to be assigned to the elastic network interface (ENI).",
      "MinValue": 0
    },
    "ImageId": {
      "Type": "String",
      "Description": "Image ID to create ecs instance ."
    },
    "SpotPriceLimit": {
      "Type": "Number",
      "Description": "Set the hourly maximum price for the instance. Supports a maximum of 3 decimal places, and the parameter
takes effect only when the value of SpotStrategy is SpotWithPriceLimit.It is a default value for all instance types, and can be
overwrite by SpotPriceLimitForInstanceType"
    },
    "TagList": {
      "Type": "Json",
      "Description": "The tags of an instance in list format.\nDo not use with Tags at the same time.\nYou should input the inf
ormation of the tag with the format of Key-Value list",
      "MaxLength": 20
    },
    "InstanceTypes": {
      "Type": "CommaDelimitedList",
      "Description": "ecs supported instance types. Length [1,10]. If InstanceTypes is specified,the InstanceType will be ignor
ed.",
      "MinLength": 1,
      "MaxLength": 10
    },
    "InstanceType": {
      "Type": "String",
      "Description": "ecs supported instance type."
    },
    "SpotStrategy": {
      "Type": "String",
      "Description": "Preemption strategy for post-paid instances. It takes effect when the parameter InstanceChargeType takes
the value of PostPaid. Ranges:\nNoSpot: Normal pay-per-use instance\nSpotWithPriceLimit: Set a preemptive instance of the cap p
rice\nSpotAsPriceGo: System automatic bidding, following the current market actual price\nDefault: NoSpot.",
      "AllowedValues": [
        "NoSpot",
        "SpotWithPriceLimit",
        "SpotAsPriceGo"
      ]
    },
    "PasswordInherit": {
      "Type": "Boolean",
      "Description": "Whether to use the password pre-configured in the image you select or not. When PasswordInherit is specif
ied, the Password must be null. For a secure access, make sure that the selected image has password configured.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "KeyPairName": {
      "Type": "String",
      "Description": "SSH key pair name."
    },
    "LoadBalancerWeight": {
      "Type": "Number",
      "Description": "The weight of the ECS instance as a backend server. Valid values: 1 to 100.\nDefault value: 50.",
      "MinValue": 1,
      "MaxValue": 100
    },
    "IoOptimized": {
      "Type": "String",
      "Description": "The 'optimized' instance can provide better IO performance. Support 'none' and 'optimized' only, default
is 'none'.",
      "AllowedValues": [
        "none",
        "optimized"
      ]
```

```
    },
    "InstanceId": {
      "Type": "String",
      "Description": "Source ECS instance to copy configuration, if the properties is setting, Which will copy the InstanceType
, ImageId, InternetChargeType, IoOptimized,UserData, KeyPairName, RamRoleName, InternetMaxBandwidthIn,InternetMaxBandwidthOut,
and first security group id from source instance, you can also specify the relative properties to overwrite the properties copy
from source instance id."
    },
    "HpcClusterId": {
      "Type": "String",
      "Description": "The HPC cluster ID to which the instance belongs."
    },
    "ScalingGroupId": {
      "Type": "String",
      "Description": "Scaling group id to create the scaling configuration."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Security Group to create ecs instance."
    },
    "ImageFamily": {
      "Type": "String",
      "Description": "The name of the image family. You can configure this parameter to obtain the latest available custom imag
es within the specified image family. The images are used to create ECS instances. If you have set the ImageId parameter, you c
annot set the ImageFamily parameter."
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "Instance internet access charge type.Support 'PayByBandwidth' and 'PayByTraffic' only.",
      "AllowedValues": [
        "paybytraffic",
        "PayByTraffic",
        "paybybandwidth",
        "PayByBandwidth"
      ]
    },
    "SystemDiskCategory": {
      "Type": "String",
      "Description": "Category of system disk. Default is cloud.support cloud|cloud_efficiency|cloud_ssd|cloud_essd|ephemeral_s
sd",
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd",
        "cloud_essd",
        "ephemeral_ssd"
      ]
    },
    "InstanceName": {
      "Type": "String",
      "Description": "The name of the instance launched from the current scaling configuration."
    },
    "DeploymentSetId": {
      "Type": "String",
      "Description": "Deployment set ID."
    },
    "InternetMaxBandwidthOut": {
      "Type": "Number",
      "Description": "Maximum outgoing bandwidth from the public network, measured in Mbps (Mega bit per second).\nThe value ra
nge for PayByBandwidth is [0,100]. If this parameter value is not specified, AliyunAPI automatically sets the value to 0 Mbps.\
nThe value range for PayByTraffic is [0,100]. If this parameter value is not specified, an error is reported",
      "MinValue": 0,
      "MaxValue": 100
    },
    "InternetMaxBandwidthIn": {
      "Type": "Number",
      "Description": "Maximum incoming bandwidth from the public network, measured in Mbps (Mega bit per second). The value ran
ge is [1,200]. If this parameter value is not specified, AliyunAPI automatically sets the value to 200 Mbps.",
      "MinValue": 1,
      "MaxValue": 200
    },
    "CreditSpecification": {
      "Type": "String",
      "Description": "The performance mode of the burstable instance. Valid values:\nStandard: the standard mode.\nUnlimited: t
```

```
he unlimited mode.",
      "AllowedValues": [
        "Standard",
        "Unlimited"
      ]
    }
  },
  "Resources": {
    "ScalingConfiguration": {
      "Type": "ALIYUN::ESS::ScalingConfiguration",
      "Properties": {
        "ScalingConfigurationName": {
          "Ref": "ScalingConfigurationName"
        },
        "DiskMappings": {
          "Ref": "DiskMappings"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "SystemDiskSize": {
          "Ref": "SystemDiskSize"
        },
        "UserData": {
          "Ref": "UserData"
        },
        "SystemDiskAutoSnapshotPolicyId": {
          "Ref": "SystemDiskAutoSnapshotPolicyId"
        },
        "RamRoleName": {
          "Ref": "RamRoleName"
        },
        "SystemDiskPerformanceLevel": {
          "Ref": "SystemDiskPerformanceLevel"
        },
        "SpotPriceLimitForInstanceType": {
          "Ref": "SpotPriceLimitForInstanceType"
        },
        "Ipv6AddressCount": {
          "Ref": "Ipv6AddressCount"
        },
        "ImageId": {
          "Ref": "ImageId"
        },
        "SpotPriceLimit": {
          "Ref": "SpotPriceLimit"
        },
        "TagList": {
          "Ref": "TagList"
        },
        "InstanceTypes": {
          "Ref": "InstanceTypes"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "SpotStrategy": {
          "Ref": "SpotStrategy"
        },
        "PasswordInherit": {
          "Ref": "PasswordInherit"
        },
        "KeyPairName": {
          "Ref": "KeyPairName"
        },
        "LoadBalancerWeight": {
          "Ref": "LoadBalancerWeight"
        },
        "IoOptimized": {
          "Ref": "IoOptimized"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
```

```
        "HpcClusterId": {
          "Ref": "HpcClusterId"
        },
        "ScalingGroupId": {
          "Ref": "ScalingGroupId"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "ImageFamily": {
          "Ref": "ImageFamily"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "SystemDiskCategory": {
          "Ref": "SystemDiskCategory"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "DeploymentSetId": {
          "Ref": "DeploymentSetId"
        },
        "InternetMaxBandwidthOut": {
          "Ref": "InternetMaxBandwidthOut"
        },
        "InternetMaxBandwidthIn": {
          "Ref": "InternetMaxBandwidthIn"
        },
        "CreditSpecification": {
          "Ref": "CreditSpecification"
        }
      }
    }
  },
  "Outputs": {
    "ScalingConfigurationId": {
      "Description": "The scaling configuration id",
      "Value": {
        "Fn::GetAtt": [
          "ScalingConfiguration",
          "ScalingConfigurationId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CreditSpecification:
    AllowedValues:
    - Standard
    - Unlimited
    Description: 'The performance mode of the burstable instance. Valid values:
      Standard: the standard mode.
      Unlimited: the unlimited mode.'
    Type: String
  DeploymentSetId:
    Description: Deployment set ID.
    Type: String
  DiskMappings:
    Description: Disk mappings to attach to instance.
    Type: Json
  HpcClusterId:
    Description: The HPC cluster ID to which the instance belongs.
    Type: String
  ImageFamily:
    Description: The name of the image family. You can configure this parameter to
      obtain the latest available custom images within the specified image family.
      The images are used to create ECS instances. If you have set the ImageId parameter,
```

```
    The images are used to create ECS instances. If you have set the ImageId parameter,
    you cannot set the ImageFamily parameter.
  Type: String
ImageId:
  Description: Image ID to create ecs instance .
  Type: String
InstanceId:
  Description: Source ECS instance to copy configuration, if the properties is setting,
    Which will copy the InstanceType, ImageId, InternetChargeType, IoOptimized,UserData,
    KeyPairName, RamRoleName, InternetMaxBandwidthIn,InternetMaxBandwidthOut, and
    first security group id from source instance, you can also specify the relative
    properties to overwrite the properties copy from source instance id.
  Type: String
InstanceName:
  Description: The name of the instance launched from the current scaling configuration.
  Type: String
InstanceType:
  Description: ecs supported instance type.
  Type: String
InstanceTypes:
  Description: ecs supported instance types. Length [1,10]. If InstanceTypes is
    specified,the InstanceType will be ignored.
  MaxLength: 10
  MinLength: 1
  Type: CommaDelimitedList
InternetChargeType:
  AllowedValues:
  - paybytraffic
  - PayByTraffic
  - paybybandwidth
  - PayByBandwidth
  Description: Instance internet access charge type.Support 'PayByBandwidth' and
    'PayByTraffic' only.
  Type: String
InternetMaxBandwidthIn:
  Description: Maximum incoming bandwidth from the public network, measured in Mbps
    (Mega bit per second). The value range is [1,200]. If this parameter value is
    not specified, AliyunAPI automatically sets the value to 200 Mbps.
  MaxValue: 200
  MinValue: 1
  Type: Number
InternetMaxBandwidthOut:
  Description: 'Maximum outgoing bandwidth from the public network, measured in
    Mbps (Mega bit per second).
    The value range for PayByBandwidth is [0,100]. If this parameter value is not
    specified, AliyunAPI automatically sets the value to 0 Mbps.
    The value range for PayByTraffic is [0,100]. If this parameter value is not
    specified, an error is reported'
  MaxValue: 100
  MinValue: 0
  Type: Number
IoOptimized:
  AllowedValues:
  - none
  - optimized
  Description: The 'optimized' instance can provide better IO performance. Support
    'none' and 'optimized' only, default is 'none'.
  Type: String
Ipv6AddressCount:
  Description: The number of randomly generated IPv6 addresses to be assigned to
    the elastic network interface (ENI).
  MinValue: 0
  Type: Number
KeyPairName:
  Description: SSH key pair name.
  Type: String
LoadBalancerWeight:
  Description: 'The weight of the ECS instance as a backend server. Valid values:
    1 to 100.
    Default value: 50.'
  MaxValue: 100
  MinValue: 1
  Type: Number
PasswordInherit:
  AllowedValues:
```

```
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Whether to use the password pre-configured in the image you select
      or not. When PasswordInherit is specified, the Password must be null. For a
      secure access, make sure that the selected image has password configured.
    Type: Boolean
  RamRoleName:
    Description: Instance RAM role name. The name is provided and maintained by Resource
      Access Management (RAM) and can be queried using ListRoles. For more information,
      see RAM API CreateRole and ListRoles.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  ScalingConfigurationName:
    Description: Name of created scaling configuration.
    Type: String
  ScalingGroupId:
    Description: Scaling group id to create the scaling configuration.
    Type: String
  SecurityGroupId:
    Description: Security Group to create ecs instance.
    Type: String
  SpotPriceLimit:
    Description: Set the hourly maximum price for the instance. Supports a maximum
      of 3 decimal places, and the parameter takes effect only when the value of SpotStrategy
      is SpotWithPriceLimit.It is a default value for all instance types, and can
      be overwrite by SpotPriceLimitForInstanceType
    Type: Number
  SpotPriceLimitForInstanceType:
    Description: "Set the hourly maximum price for the instance of specified instance\
      \ type.\nThe parameter takes effect only when the value of SpotStrategy is SpotWithPriceLimit.\n\
      You should input the information of the tag with the format of the Key-Value,\
      \ such as {\"key1\":\"value1\",\"key2\":\"value2\", ... \"key5\":\"value5\"\
      }.\nAt most 50 items can be specified.\nKey\n\tecs instance type\nValue\n\t\
      Supports a maximum of 3 decimal places."
    Type: Json
  SpotStrategy:
    AllowedValues:
    - NoSpot
    - SpotWithPriceLimit
    - SpotAsPriceGo
    Description: 'Preemption strategy for post-paid instances. It takes effect when
      the parameter InstanceChargeType takes the value of PostPaid. Ranges:
      NoSpot: Normal pay-per-use instance
      SpotWithPriceLimit: Set a preemptive instance of the cap price
      SpotAsPriceGo: System automatic bidding, following the current market actual
      price
      Default: NoSpot.'
    Type: String
  SystemDiskAutoSnapshotPolicyId:
    Description: Auto snapshot policy ID.
    Type: String
  SystemDiskCategory:
    AllowedValues:
    - cloud
    - cloud_efficiency
    - cloud_ssd
    - cloud_essd
    - ephemeral_ssd
    Description: Category of system disk. Default is cloud.support cloud|cloud_efficiency|cloud_ssd|cloud_essd|ephemeral_ssd
    Type: String
  SystemDiskPerformanceLevel:
    Description: The performance level of an ESSD.
    Type: String
  SystemDiskSize:
    Description: Size of system disk. Unit is GB.
    MinValue: 20
    Type: Number
  TagList:
    Description: 'The tags of an instance in list format.
      Do not use with Tags at the same time.
```

```
      You should input the information of the tag with the format of Key-Value list,
      such as [{"Key":"key1","Value":"value1"}, ...].
      At most 20 tags can be specified.'
    MaxLength: 20
    Type: Json
  UserData:
    Description: User data to pass to instance. [1, 16KB] characters.User data should
      not be base64 encoded. If you want to pass base64 encoded string to the property,
      use function Fn::Base64Decode to decode the base64 string first.
    Type: String
Resources:
  ScalingConfiguration:
    Properties:
      CreditSpecification:
        Ref: CreditSpecification
      DeploymentSetId:
        Ref: DeploymentSetId
      DiskMappings:
        Ref: DiskMappings
      HpcClusterId:
        Ref: HpcClusterId
      ImageFamily:
        Ref: ImageFamily
      ImageId:
        Ref: ImageId
      InstanceId:
        Ref: InstanceId
      InstanceName:
        Ref: InstanceName
      InstanceType:
        Ref: InstanceType
      InstanceTypes:
        Ref: InstanceTypes
      InternetChargeType:
        Ref: InternetChargeType
      InternetMaxBandwidthIn:
        Ref: InternetMaxBandwidthIn
      InternetMaxBandwidthOut:
        Ref: InternetMaxBandwidthOut
      IoOptimized:
        Ref: IoOptimized
      Ipv6AddressCount:
        Ref: Ipv6AddressCount
      KeyPairName:
        Ref: KeyPairName
      LoadBalancerWeight:
        Ref: LoadBalancerWeight
      PasswordInherit:
        Ref: PasswordInherit
      RamRoleName:
        Ref: RamRoleName
      ResourceGroupId:
        Ref: ResourceGroupId
      ScalingConfigurationName:
        Ref: ScalingConfigurationName
      ScalingGroupId:
        Ref: ScalingGroupId
      SecurityGroupId:
        Ref: SecurityGroupId
      SpotPriceLimit:
        Ref: SpotPriceLimit
      SpotPriceLimitForInstanceType:
        Ref: SpotPriceLimitForInstanceType
      SpotStrategy:
        Ref: SpotStrategy
      SystemDiskAutoSnapshotPolicyId:
        Ref: SystemDiskAutoSnapshotPolicyId
      SystemDiskCategory:
        Ref: SystemDiskCategory
      SystemDiskPerformanceLevel:
        Ref: SystemDiskPerformanceLevel
      SystemDiskSize:
        Ref: SystemDiskSize
      TagList:
```

```
        Ref: TagList
      UserData:
        Ref: UserData
    Type: ALIYUN::ESS::ScalingConfiguration
Outputs:
  ScalingConfigurationId:
    Description: The scaling configuration id
    Value:
      Fn::GetAtt:
      - ScalingConfiguration
      - ScalingConfigurationId
```

To view more examples, visit ScalingGroupEnable.json and ScalingGroupEnable.yml.

33.5. ALIYUN::ESS::ScalingGroup

ALIYUN::ESS::ScalingGroup is used to create a scaling group. A scaling group is a group of ECS instances that are dynamically scaled based on the configured scenario. A scaling group does not take effect immediately after it is created. You must use ALIYUN::ESS::ScalingGroupEnable to enable the scaling group to trigger scaling rules and execute scaling activities.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScalingGroup",
  "Properties": {
    "MultiAZPolicy": String,
    "DesiredCapacity": Integer,
    "NotificationConfigurations": List,
    "ProtectedInstances": List,
    "LaunchTemplateId": String,
    "LaunchTemplateVersion": String,
    "ScalingGroupName": String,
    "VSwitchIds": List,
    "DefaultCooldown": Integer,
    "MinSize": Integer,
    "GroupDeletionProtection": Boolean,
    "MaxSize": Integer,
    "InstanceId": String,
    "VSwitchId": String,
    "LoadBalancerIds": List,
    "StandbyInstances": List,
    "RemovalPolicys": List,
    "HealthCheckType": String,
    "DBInstanceIds": List,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
MinSize	Integer	Yes	Yes	The minimum number of ECS instances in the scaling group.	Valid values: 0 to 1000. When the number of ECS instances in the scaling group is smaller than the value of MinSize, Auto Scaling creates ECS instances till the number of instances is equal to the MinSize value.
MaxSize	Integer	Yes	Yes	The maximum number of ECS instances in the scaling group.	Valid values: 0 to 1000. When the number of ECS instances in the scaling group is greater than the MaxSize value, Auto Scaling removes ECS instances from the scaling group till the number of instances is equal to the MaxSize value.

Property	Type	Required	Editable	Description	Constraint
ScalingGroupName	String	No	Yes	The display name of the scaling group.	The name must be 2 to 64 characters in length and can contain letters, digits, underscores (_), hyphens (-), and periods (.). It must start with a letter or digit. The name must be unique to an Alibaba Cloud account within a region. The default value is the ID of the scaling group.
LaunchTemplateId	String	No	Yes	The ID of the instance launch template from which the scaling group obtains launch configurations.	None
LaunchTemplateVersion	String	No	Yes	The version of the instance launch template.	Valid values: • The fixed template version number. • Default: The default template version is always used. • Latest: The latest template version is always used.
RemovalPolicys	List	No	Yes	The policies that are used to remove ECS instances from the scaling group.	Default value: OldestScalingConfiguration or OldestInstance. Valid values: • OldestInstance: removes the ECS instance that is added to the scaling group at the earliest point in time. • NewestInstance: removes the ECS instance that is added to the scaling group at the latest point in time. • OldestScalingConfiguration: removes the ECS instance that is created based on the earliest scaling configuration.
VSwitchId	String	No	No	The ID of the vSwitch.	None
LoadBalancerIds	List	No	Yes	The ID of the Server Load Balancer (SLB) instance.	This value can be a JSON array that consists of up to five SLB instance IDs. Separate multiple IDs with commas (,).
DefaultCooldown	Integer	No	Yes	The cooldown time after a scaling activity (adding or removing ECS instances) is executed.	• Valid values: 0 to 86400. • Unit: seconds. • Default value: 300. During the cooldown time, the scaling group executes only scaling activities that are triggered by CloudMonitor event-triggered tasks.
DBInstanceIds	List	No	Yes	The IDs of ApsaraDB RDS instances.	This value can be a JSON array that contains up to eight ApsaraDB RDS instance IDs. Separate multiple IDs with commas (,).

Property	Type	Required	Editable	Description	Constraint
VSwitchIds	List	No	No	The IDs of vSwitches.	You can specify up to five vSwitch IDs. If you specify this parameter, the VSwitchId parameter is ignored. vSwitches are sorted in descending order of priority. When an ECS instance cannot be created in the zone where the vSwitch that has the highest priority resides, the system uses the vSwitch that has the next highest priority to create the instance.
MultiAZPolicy	String	No	No	The ECS instance scaling policy for the multi-zone scaling group.	Valid values: • PRIORITY: ECS instances are scaled based on the specified vSwitch. When an ECS instance cannot be created in the zone where the vSwitch that has the highest priority resides, the system uses the vSwitch that has the next highest priority to create the instance. • BALANCE: ECS instances are evenly distributed in multiple zones specified in the scaling group. • COST_OPTIMIZED: ECS instances are created based on the unit price of vCPUs, from low to high. Preemptible instances are created first when preemptible instance types are specified for the scaling configuration. Pay-as-you-go instances are created when no preemptible instances are available due to issues such as insufficient ECS resources.
NotificationConfigurations	List	No	Yes	The notification configurations for event and resource changes.	For more information, see the NotificationConfigurations properties section in this topic.
ProtectedInstances	List	No	Yes	The number of protected ECS instances in the scaling group.	Maximum value: 1000.
StandbyInstances	List	No	Yes	The number of ECS instances that are in the standby state in the scaling group.	Maximum value: 1000.
HealthCheckType	String	No	Yes	The health check type.	Valid values: • ECS • NONE
GroupDeletionProtection	Boolean	No	Yes	Specifies whether to enable deletion protection for the scaling group.	Default value: false. Valid values: • true: Deletion protection is enabled for the scaling group. In this case, you cannot delete the scaling group. • false: Deletion protection is disabled for the scaling group.

Property	Type	Required	Editable	Description	Constraint
DesiredCapacity	Integer	No	Yes	The expected number of ECS instances in the scaling group. The scaling group automatically keeps the number of ECS instances at the expected value.	The expected number must be greater than or equal to the value of MinSize and less than or equal to the value of MaxSize.
InstanceId	String	No	No	The ID of the ECS instance from which the scaling group obtains configuration information to create scaling configurations.	None
Tags	List	No	Yes	The tags of the scaling group.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

NotificationConfigurations syntax

```
"NotificationConfigurations": [
  {
    "NotificationArn": String,
    "NotificationTypes": List
  }
]
```

NotificationConfigurations properties

Property	Type	Required	Editable	Description	Constraint
NotificationArn	String	Yes	No	The Alibaba Cloud Resource Name (ARN) of the notification object that Auto Scaling uses to notify you when an instance is in the transition state for the lifecycle hook. This object can be an MNS queue or an MNS topic.	Format: • MNS queue: `acs:ess:{region}:{account-id}:queue/{queuename}` • MNS topic: `acs:ess:{region}:{account-id}:topic/{topicname}`
NotificationTypes	List	Yes	No	The types of the notification configurations for ESS events and resource changes.	None

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- ScalingGroupId: the ID of the scaling group.
- ScalingGroupName: the name of the scaling group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the ECS instance from which the scaling group obtains configuration information of the specifie
d instance."
    },
    "VSwitchIds": {
      "Type": "CommaDelimitedList",
      "Description": "Parameter VSwitchIds.N is used to create instance in multiple zones. Parameter VSwitchIds.N has a priorit
y over parameter VSwitchId.\nThe valid range of N is [1, 5], and you can specify at most 5 VSwitches in a VPC.\nThe priority of
VSwitches descends from 1 to 5, and 1 indicates the highest priority.\nWhen you fail to create an instance in the zone to which
a specified VSwitch belongs, another VSwitch with less priority replaces the specified one automatically.",
      "MinLength": 0,
      "MaxLength": 5
    },
    "NotificationConfigurations": {
      "Type": "Json",
      "Description": "When a scaling event occurs in a scaling group, ESS will send a notification to Cloud Monitor or MNS."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "If you create a VPC scaling group, you must specify the ID of a VSwitch."
    },
    "LoadBalancerIds": {
      "Type": "CommaDelimitedList",
      "Description": "ID list of a Server Load Balancer instance. A Json Array with format: [ \"lb-id0\", \"lb-id1\", ... \"lb-
idz\" ], support up to 100 Load Balancer instance.",
      "MaxLength": 100
    },
    "DesiredCapacity": {
      "Type": "Number",
      "Description": "The expected number of ECS instances in a scaling group. The scaling group automatically keeps the number
of ECS instances as expected. The number of ECS instances cannot be greater than the value of MaxSize and cannot be less than t
he value of MinSize."
    },
    "GroupDeletionProtection": {
      "Type": "Boolean",
      "Description": "Whether to enable deletion protection for scaling group.\nDefault to False.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "LaunchTemplateId": {
      "Type": "String",
      "Description": "The ID of the instance launch template from which the scaling group obtains launch configurations."
```

```
    },
    "MaxSize": {
      "Type": "Number",
      "Description": "Maximum number of ECS instances in the scaling group. Value range: [0, 1000].",
      "MinValue": 0,
      "MaxValue": 1000
    },
    "ScalingGroupName": {
      "Type": "String",
      "Description": "Name shown for the scaling group, which must contain 2-40 characters (English or Chinese). The name must
begin with a number, an upper/lower-case letter or a Chinese character and may contain numbers, \"_\", \"-\" or \".\". The acco
unt name is unique in the same region.\nIf this parameter is not specified, the default value is ScalingGroupId.",
      "AllowedPattern": "^[a-zA-Z0-9\\u4e00-\\u9fa5][-_.a-zA-Z0-9\\u4e00-\\u9fa5]{1,63}$"
    },
    "MinSize": {
      "Type": "Number",
      "Description": "Minimum number of ECS instances in the scaling group. Value range: [0, 1000].",
      "MinValue": 0,
      "MaxValue": 1000
    },
    "DefaultCooldown": {
      "Type": "Number",
      "Description": "Default cool-down time (in seconds) of the scaling group. Value range: [0, 86400].\nThe default value is
300s.",
      "MinValue": 0,
      "MaxValue": 86400
    },
    "StandbyInstances": {
      "Type": "CommaDelimitedList",
      "Description": "ECS instances of standby mode in the scaling group.",
      "MaxLength": 1000
    },
    "LaunchTemplateVersion": {
      "Type": "String",
      "Description": "The version of the instance launch template. Valid values:\nA fixed template version numbe.\nDefault: The
default template version is always used.\nLatest: The latest template version is always used."
    },
    "MultiAZPolicy": {
      "Type": "String",
      "Description": "ECS scaling strategy for multi availability zone. Allow value:\n1. PRIORITY: scaling the capacity accordi
ng to the virtual switch (VSwitchIds.N) you define. ECS instances are automatically created using the next priority virtual swi
tch when the higher priority virtual switch cannot be created in the available zone.\n2. BALANCE: evenly allocate ECS instances
between the multiple available zone specified by the scaling group.",
      "AllowedValues": [
        "PRIORITY",
        "BALANCE"
      ]
    },
    "RemovalPolicys": {
      "Type": "CommaDelimitedList",
      "AllowedValues": [
        "OldestScalingConfiguration",
        "OldestInstance",
        "NewestInstance"
      ],
      "Description": "Policy for removing ECS instances from the scaling group.\nOptional values:\nOldestInstance: removes the
first ECS instance attached to the scaling group.\nNewestInstance: removes the first ECS instance attached to the scaling group
.\nOldestScalingConfiguration: removes the ECS instance with the oldest scaling configuration.\nDefault values: OldestScalingCo
nfiguration and OldestInstance. You can enter up to two removal policies.",
      "MaxLength": 2
    },
    "ProtectedInstances": {
      "Type": "CommaDelimitedList",
      "Description": "ECS instances of protected mode in the scaling group.",
      "MaxLength": 1000
    },
    "DBInstanceIds": {
      "Type": "CommaDelimitedList",
      "Description": "ID list of an RDS instance. A Json Array with format: [ \"rm-id0\", \"rm-id1\", ... \"rm-idz\" ], support
up to 100 RDS instance.",
      "MaxLength": 100
    },
    "Tags": {
      "Type": "Json",
```

```
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "HealthCheckType": {
      "Type": "String",
      "Description": "The health check type. Allow values is \"ECS\" and \"NONE\", default to \"ECS\".",
      "AllowedValues": [
        "ECS",
        "NONE"
      ]
    }
  },
  "Resources": {
    "ScalingGroup": {
      "Type": "ALIYUN::ESS::ScalingGroup",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "VSwitchIds": {
          "Ref": "VSwitchIds"
        },
        "NotificationConfigurations": {
          "Ref": "NotificationConfigurations"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "LoadBalancerIds": {
          "Ref": "LoadBalancerIds"
        },
        "DesiredCapacity": {
          "Ref": "DesiredCapacity"
        },
        "GroupDeletionProtection": {
          "Ref": "GroupDeletionProtection"
        },
        "LaunchTemplateId": {
          "Ref": "LaunchTemplateId"
        },
        "MaxSize": {
          "Ref": "MaxSize"
        },
        "ScalingGroupName": {
          "Ref": "ScalingGroupName"
        },
        "MinSize": {
          "Ref": "MinSize"
        },
        "DefaultCooldown": {
          "Ref": "DefaultCooldown"
        },
        "StandbyInstances": {
          "Ref": "StandbyInstances"
        },
        "LaunchTemplateVersion": {
          "Ref": "LaunchTemplateVersion"
        },
        "MultiAZPolicy": {
          "Ref": "MultiAZPolicy"
        },
        "RemovalPolicys": {
          "Ref": "RemovalPolicys"
        },
        "ProtectedInstances": {
          "Ref": "ProtectedInstances"
        },
        "DBInstanceIds": {
          "Ref": "DBInstanceIds"
        },
        "Tags": {
          "Ref": "Tags"
        },
```

```
        "HealthCheckType": {
          "Ref": "HealthCheckType"
        }
      }
    }
  },
  "Outputs": {
    "ScalingGroupId": {
      "Description": "Scaling group Id",
      "Value": {
        "Fn::GetAtt": [
          "ScalingGroup",
          "ScalingGroupId"
        ]
      }
    },
    "ScalingGroupName": {
      "Description": "Scaling group name",
      "Value": {
        "Fn::GetAtt": [
          "ScalingGroup",
          "ScalingGroupName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DBInstanceIds:
    Description: 'ID list of an RDS instance. A Json Array with format: [ "rm-id0",
      "rm-id1", ... "rm-idz" ], support up to 100 RDS instance.'
    MaxLength: 100
    Type: CommaDelimitedList
  DefaultCooldown:
    Description: 'Default cool-down time (in seconds) of the scaling group. Value
      range: [0, 86400].
      The default value is 300s.'
    MaxValue: 86400
    MinValue: 0
    Type: Number
  DesiredCapacity:
    Description: The expected number of ECS instances in a scaling group. The scaling
      group automatically keeps the number of ECS instances as expected. The number
      of ECS instances cannot be greater than the value of MaxSize and cannot be less
      than the value of MinSize.
    Type: Number
  GroupDeletionProtection:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to enable deletion protection for scaling group.
      Default to False.'
    Type: Boolean
  HealthCheckType:
    AllowedValues:
    - ECS
    - NONE
    Description: The health check type. Allow values is "ECS" and "NONE", default
      to "ECS".
    Type: String
  InstanceId:
    Description: The ID of the ECS instance from which the scaling group obtains configuration
      information of the specified instance.
    Type: String
  LaunchTemplateId:
    Description: The ID of the instance launch template from which the scaling group
      obtains launch configurations.
```

```
    Type: String
  LaunchTemplateVersion:
    Description: 'The version of the instance launch template. Valid values:
      A fixed template version numbe.
      Default: The default template version is always used.
      Latest: The latest template version is always used.'
    Type: String
  LoadBalancerIds:
    Description: 'ID list of a Server Load Balancer instance. A Json Array with format:
      [ "lb-id0", "lb-id1", ... "lb-idz" ], support up to 100 Load Balancer instance.'
    MaxLength: 100
    Type: CommaDelimitedList
  MaxSize:
    Description: 'Maximum number of ECS instances in the scaling group. Value range:
      [0, 1000].'
    MaxValue: 1000
    MinValue: 0
    Type: Number
  MinSize:
    Description: 'Minimum number of ECS instances in the scaling group. Value range:
      [0, 1000].'
    MaxValue: 1000
    MinValue: 0
    Type: Number
  MultiAZPolicy:
    AllowedValues:
    - PRIORITY
    - BALANCE
    Description: 'ECS scaling strategy for multi availability zone. Allow value:
      1. PRIORITY: scaling the capacity according to the virtual switch (VSwitchIds.N)
      you define. ECS instances are automatically created using the next priority
      virtual switch when the higher priority virtual switch cannot be created in
      the available zone.
      2. BALANCE: evenly allocate ECS instances between the multiple available zone
      specified by the scaling group.'
    Type: String
  NotificationConfigurations:
    Description: When a scaling event occurs in a scaling group, ESS will send a notification
      to Cloud Monitor or MNS.
    Type: Json
  ProtectedInstances:
    Description: ECS instances of protected mode in the scaling group.
    MaxLength: 1000
    Type: CommaDelimitedList
  RemovalPolicys:
    AllowedValues:
    - OldestScalingConfiguration
    - OldestInstance
    - NewestInstance
    Description: 'Policy for removing ECS instances from the scaling group.
      Optional values:
      OldestInstance: removes the first ECS instance attached to the scaling group.
      NewestInstance: removes the first ECS instance attached to the scaling group.
      OldestScalingConfiguration: removes the ECS instance with the oldest scaling
      configuration.
      Default values: OldestScalingConfiguration and OldestInstance. You can enter
      up to two removal policies.'
    MaxLength: 2
    Type: CommaDelimitedList
  ScalingGroupName:
    AllowedPattern: ^[a-zA-Z0-9\u4e00-\u9fa5][-_.a-zA-Z0-9\u4e00-\u9fa5]{1,63}$
    Description: 'Name shown for the scaling group, which must contain 2-40 characters
      (English or Chinese). The name must begin with a number, an upper/lower-case
      letter or a Chinese character and may contain numbers, "_", "-" or ".". The
      account name is unique in the same region.
      If this parameter is not specified, the default value is ScalingGroupId.'
    Type: String
  StandbyInstances:
    Description: ECS instances of standby mode in the scaling group.
    MaxLength: 1000
    Type: CommaDelimitedList
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
```

```
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: If you create a VPC scaling group, you must specify the ID of a VSwitch.
    Type: String
  VSwitchIds:
    Description: 'Parameter VSwitchIds.N is used to create instance in multiple zones.
      Parameter VSwitchIds.N has a priority over parameter VSwitchId.
      The valid range of N is [1, 5], and you can specify at most 5 VSwitches in a
      VPC.
      The priority of VSwitches descends from 1 to 5, and 1 indicates the highest
      priority.
      When you fail to create an instance in the zone to which a specified VSwitch
      belongs, another VSwitch with less priority replaces the specified one automatically.'
    MaxLength: 5
    MinLength: 0
    Type: CommaDelimitedList
Resources:
  ScalingGroup:
    Properties:
      DBInstanceIds:
        Ref: DBInstanceIds
      DefaultCooldown:
        Ref: DefaultCooldown
      DesiredCapacity:
        Ref: DesiredCapacity
      GroupDeletionProtection:
        Ref: GroupDeletionProtection
      HealthCheckType:
        Ref: HealthCheckType
      InstanceId:
        Ref: InstanceId
      LaunchTemplateId:
        Ref: LaunchTemplateId
      LaunchTemplateVersion:
        Ref: LaunchTemplateVersion
      LoadBalancerIds:
        Ref: LoadBalancerIds
      MaxSize:
        Ref: MaxSize
      MinSize:
        Ref: MinSize
      MultiAZPolicy:
        Ref: MultiAZPolicy
      NotificationConfigurations:
        Ref: NotificationConfigurations
      ProtectedInstances:
        Ref: ProtectedInstances
      RemovalPolicys:
        Ref: RemovalPolicys
      ScalingGroupName:
        Ref: ScalingGroupName
      StandbyInstances:
        Ref: StandbyInstances
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VSwitchIds:
        Ref: VSwitchIds
    Type: ALIYUN::ESS::ScalingGroup
Outputs:
  ScalingGroupId:
    Description: Scaling group Id
    Value:
      Fn::GetAtt:
      - ScalingGroup
      - ScalingGroupId
  ScalingGroupName:
    Description: Scaling group name
    Value:
      Fn::GetAtt:
      - ScalingGroup
      - ScalingGroupName
```

For more examples, visit ScalingGroup.json and ScalingGroup.yml. In the examples, the ALIYUN::ESS::ScalingGroup, ALIYUN::ESS::ScalingRule, ALIYUN::ESS::AlarmTask, ALIYUN::ESS::AlarmTaskEnable, ALIYUN::ESS::LifecycleHook, and ALIYUN::ESS::ScheduledTask resource types are involved.

33.6. ALIYUN::ESS::ScalingGroupEnable

ALIYUN::ESS::ScalingGroupEnable is used to enable a scaling group.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScalingGroupEnable",
  "Properties": {
    "ScalingConfigurationId": String,
    "ScalingRuleArisExecuteVersion": Integer,
    "ScalingRuleAris": List,
    "ScalingGroupId": String,
    "RemoveInstanceIds": List,
    "InstanceIds": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ScalingGroupId	String	Yes	No	The ID of the scaling group.	None
ScalingConfigurationId	String	No	No	The ID of the scaling configuration to be activated in the scaling group.	None
InstanceIds	List	No	Yes	The IDs of ECS instances to be added to the enabled scaling group.	A maximum of 20 instance IDs can be specified.
ScalingRuleArisExecuteVersion	Integer	No	Yes	The version of the identifier for the scaling rule to be executed. If you change this property, all scaling rules specified by ScalingRuleAris will be executed once.	Minimum value: 0.
ScalingRuleAris	List	No	Yes	The unique identifiers of scaling rules in the scaling group. Invalid unique identifiers are not displayed in the query results and no errors are reported.	A maximum of 10 scaling rule identifiers can be specified.
RemoveInstanceIds	List	No	Yes	The IDs of ECS instances to be deleted.	A maximum of 1,000 instance IDs can be specified.

Response parameters

Fn::GetAtt

- LifecycleState: the status of the scaling group.
- ScalingInstances: the instances that are automatically created in the scaling group.
- ScalingGroupId: the ID of the scaling group.
- ScalingRuleArisExecuteResultInstancesRemoved: the instances that are removed from the scaling group by executing the scaling rules specified by ScalingRuleAris.
- ScalingRuleArisExecuteResultNumberOfAddedInstances: the number of instances that are added to the scaling group by executing the

scaling rules specified by ScalingRuleAris.

- ScalingInstanceDetails: the instance scaling details.
- ScalingRuleArisExecuteErrorInfo: the error information about the execution of the scaling rules specified by ScalingRuleAris.
- ScalingRuleArisExecuteResultInstancesAdded: the instances that are added to the scaling group by executing the scaling rules specified by ScalingRuleAris.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ScalingGroupEnable": {
      "Type": "ALIYUN::ESS::ScalingGroupEnable",
      "Properties": {
        "ScalingGroupId": "r0HUqbJ411cc2eQw8bU****",
        "ScalingConfigurationId": "bJlLfdexm77Ldsyptmel****",
        "InstanceIds": "",
      }
    }
  },
  "Outputs": {
    "ScalingGroupEnable": {
      "Value": {"Fn::GetAtt": ["ScalingGroupEnable", "LifecycleState"]}
    }
  }
}
```

33.7. ALIYUN::ESS::ScalingRule

ALIYUN::ESS::ScalingRule is used to create a scaling rule.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScalingRule",
  "Properties": {
    "AdjustmentValue": Integer,
    "Cooldown": Integer,
    "ScalingGroupId": String,
    "AdjustmentType": String,
    "ScalingRuleName": String,
    "MetricName": String,
    "PredictiveTaskBufferTime": Integer,
    "ScalingRuleType": String,
    "PredictiveValueBuffer": Integer,
    "TargetValue": Number,
    "StepAdjustment": List,
    "PredictiveValueBehavior": String,
    "DisableScaleIn": Boolean,
    "InitialMaxSize": Integer,
    "MinAdjustmentMagnitude": Integer,
    "EstimatedInstanceWarmup": Integer,
    "PredictiveScalingMode": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
AdjustmentValue	Integer	No	Yes	The number of ECS instances to increase or decrease when scaling occurs. This parameter takes effect only when the ScalingRuleType parameter is set to SimpleScalingRule or StepScalingRule.	Valid values based on the AdjustmentType value: • Valid values when the AdjustmentType parameter is set to QuantityChangeInCapacity: -500 to 500 • Valid values when the AdjustmentType parameter is set to PercentChangeInCapacity: -100 to 10000 • Valid values when the AdjustmentType parameter is set to TotalCapacity: 0 to 1000 **Note** The number of ECS instances to be adjusted in a single scaling activity cannot exceed 500.
Cooldown	Integer	No	Yes	The cooldown period of the scaling rule. This parameter takes effect only when the ScalingRuleType parameter is set to SimpleScalingRule.	Valid values: 0 to 86400. Unit: seconds. This parameter is empty by default.
ScalingGroupId	String	Yes	No	The ID of the scaling group to which the scaling rule belongs.	None
AdjustmentType	String	No	Yes	The adjustment method of the scaling rule. This parameter takes effect only when the ScalingRuleType parameter is set to SimpleScalingRule or StepScalingRule.	Valid values: • QuantityChangeInCapacity: increases or decreases the specified number of ECS instances in a scaling group. • PercentChangeInCapacity: increases or decreases the specified percentage of ECS instances in a scaling group. • TotalCapacity: increases or decreases the number of ECS instances in a scaling group by or to a specific number.
ScalingRuleName	String	No	Yes	The name of the scaling rule.	The name must be 2 to 64 characters in length and can contain digits, letters, underscores (_), hyphens (-), and periods (.). It must start with a digit or letter. If this parameter is not specified, the ScalingRuleId value is used by default.

Property	Type	Required	Editable	Description	Constraint
MetricName	String	No	No	The predefined metric to monitor. This parameter is required and applicable only when the ScalingRuleType parameter is set to TargetTrackingScalingRule or PredictiveScalingRule.	• Valid values when the ScalingRuleType parameter is set to TargetTrackingScalingRule: ○ CpuUtilization: the average CPU utilization ○ ClassicInternetRx: the average Internet inbound traffic over the classic network ○ ClassicInternetTx: the average Internet outbound traffic over the classic network ○ VpcInternetRx: the average Internet inbound traffic over the VPC ○ VpcInternetTx: the average Internet outbound traffic over the VPC ○ IntranetRx: the average inbound traffic over the internal network ○ IntranetTx: the average outbound traffic over the internal network • Valid values when the ScalingRuleType parameter is set to PredictiveScalingRule: ○ CpuUtilization: the average CPU utilization ○ IntranetRx: the average inbound traffic over the internal network ○ IntranetTx: the average outbound traffic over the internal network
PredictiveTaskBufferTime	Integer	No	No	The buffer period ahead of the prediction task execution time. By default, all scheduled tasks that are automatically created for a predictive scaling rule are executed on the hour. You can set a buffer period to execute prediction tasks ahead of schedule, so that resources can be prepared in advance.	Valid values: 0 to 60. Unit: minutes. Default value: 0.

Property	Type	Required	Editable	Description	Constraint
ScalingRuleType	String	No	No	The type of the scaling rule.	Default value: SimpleScalingRule. Valid values: • SimpleScalingRule: scales ECS instances based on the values of AdjustmentType and AdjustmentValue. • TargetTrackingScalingRule: dynamically calculates the number of ECS instances to be scaled and tries to keep the value of a predefined metric close to TargetValue. • StepScalingRule: scales ECS instances in steps based on specified thresholds and metric values. • PredictiveScalingRule: uses machine learning to analyze historical monitoring data of the scaling group and predict the future values of metrics. The rule then automatically creates scheduled tasks to set the boundary values for the scaling group.
PredictiveValueBuffer	Integer	No	No	The ratio of the increment to the predicted value when PredictiveValueBehavior is set to PredictiveValueOverrideMaxWithBuffer. If the predicted value increased by this ratio is greater than the initial maximum capacity, the value after the increase is used as the maximum value for prediction tasks.	Valid values: 0 to 100. Default value: 0.
TargetValue	Number	No	No	The metric value that you expect. This parameter takes effect only when the ScalingRuleType parameter is set to TargetTrackingScalingRule or PredictiveScalingRule.	The value must be greater than 0 and can have a maximum of three decimal places.
StepAdjustment	List	No	No	The step adjustments for step scaling.	For more information, see StepAdjustment properties.

Property	Type	Required	Editable	Description	Constraint
PredictiveValueBehavior	String	No	No	The action taken on the predicted maximum value.	Default value: MaxOverridePredictiveValue. Valid values: • MaxOverridePredictiveValue: uses the initial maximum capacity as the maximum value for prediction tasks when the predicted value is greater than the initial maximum capacity. • PredictiveValueOverrideMax: uses the predicted value as the maximum value for prediction tasks when the predicted value is greater than the initial maximum capacity. • PredictiveValueOverrideMaxWithBuffer: increases the predicted value by a ratio, which is specified by PredictiveValueBuffer. If the value after the increase is greater than the initial maximum capacity, the value after the increase is used as the maximum value for prediction tasks.
DisableScaleIn	Boolean	No	No	Specifies whether to disable scale-in. This parameter takes effect only when the ScalingRuleType parameter is set to TargetTrackingScalingRule.	Default value: false. Valid values: • true • false
InitialMaxSize	Integer	No	No	The maximum number of ECS instances in the scaling group, which is used together with the PredictiveValueBehavior parameter.	The default value of this parameter is the value of MaxSize.
MinAdjustmentMagnitude	Integer	No	No	The minimum number of ECS instances to be adjusted in the scaling rule.	This parameter takes effect only when the ScalingRuleType parameter is set to SimpleScalingRule or StepScalingRule, and the AdjustmentType parameter is set to PercentChangeInCapacity.

Property	Type	Required	Editable	Description	Constraint
EstimatedInstanceWarmup	Integer	No	No	The warm-up period of the ECS instances. This parameter takes effect only when the ScalingRuleType parameter is set to TargetTrackingScalingRule or StepScalingRule.	Valid values: 0 to 86400. Unit: seconds. Default value: 300. The system adds ECS instances that are in the warm-up state to the scaling group, but does not report monitoring data to Cloud Monitor during the warm-up period. **Note** When the system calculates the number of ECS instances to be adjusted, the system does not count ECS instances in the warm-up state as part of the current capacity of the scaling group.
PredictiveScalingMode	String	No	No	The mode of the predictive scaling rule.	Default value: PredictAndScale. Valid values: • PredictAndScale: generates predicted results and creates prediction tasks. • PredictOnly: generates predicted results but does not create prediction tasks.

StepAdjustment syntax

```
"StepAdjustment": [
  {
    "MetricIntervalUpperBound": Number,
    "ScalingAdjustment": Integer,
    "MetricIntervalLowerBound": Number
  }
]
```

StepAdjustment properties

Property	Type	Required	Editable	Description	Constraint
MetricIntervalUpperBound	Number	No	No	The upper limit value specified in the step adjustment. This parameter takes effect only when the ScalingRuleType parameter is set to StepScalingRule.	Valid values: -9.999999E18 to 9.999999E18
ScalingAdjustment	Integer	No	No	The specified number of ECS instances to be adjusted in the step adjustment. This parameter takes effect only when the ScalingRuleType parameter is set to StepScalingRule.	None

Property	Type	Required	Editable	Description	Constraint
MetricIntervalLowerBound	Number	No	No	The lower limit value specified in the step adjustment. This parameter takes effect only when the ScalingRuleType parameter is set to StepScalingRule.	Valid values: -9.999999E18 to 9.999999E18

Response parameters

Fn::GetAtt

- ScalingRuleAri: the unique identifier of the scaling rule.
- ScalingRuleId: the ID of the scaling rule. This ID is a globally unique identifier (GUID) generated by the system.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TargetValue": {
      "Type": "Number",
      "Description": "The target value of a metric. This parameter is required and applicable only to target tracking scaling r
ules and predictive scaling rules. The value of TargetValue must be greater than 0 and can have a maximum of three decimal plac
es."
    },
    "Cooldown": {
      "Type": "Number",
      "Description": "Cool-down time of a scaling rule. Value range: [0, 86,400], in seconds. The default value is empty.",
      "MinValue": 0,
      "MaxValue": 86400
    },
    "ScalingGroupId": {
      "Type": "String",
      "Description": "ID of the scaling group of a scaling rule."
    },
    "PredictiveValueBehavior": {
      "Type": "String",
      "Description": "The action taken on the predicted maximum value. Valid values:\n- MaxOverridePredictiveValue: uses the in
itial maximum capacity as the maximum value for forecast tasks when the predicted value is greater than the initial maximum cap
acity.\n - PredictiveValueOverrideMax: uses the predicted value as the maximum value for forecast tasks when the predicted valu
e is greater than the initial maximum capacity.\n - PredictiveValueOverrideMaxWithBuffer: increases the predicted value with a
ratio, which is specified by PredictiveValueBuffer. If the value after the increase is greater than the initial maximum capacit
y, the value after the increase is used as the maximum value for forecast tasks.\n Default value: MaxOverridePredictiveValue",
      "AllowedValues": [
        "MaxOverridePredictiveValue",
        "PredictiveValueOverrideMax",
        "PredictiveValueOverrideMaxWithBuffer"
      ]
    },
    "MinAdjustmentMagnitude": {
      "Type": "Number",
      "Description": "The minimum number of ECS instances to be adjusted in a scaling rule. This parameter takes effect only wh
en the scaling rule type is SimpleScalingRule or StepScalingRule and AdjustmentType is PercentChangeInCapacity.",
      "MinValue": 0,
      "MaxValue": 20
    },
    "DisableScaleIn": {
      "Type": "Boolean",
      "Description": "Specifies whether to disable scale-in. This parameter is applicable only to target tracking scaling rules
.\n Default value: false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    }
```

```
    },
    "StepAdjustment": {
      "Type": "Json",
      "Description": ""
    },
    "AdjustmentType": {
      "Type": "String",
      "Description": "Adjustment mode of a scaling rule. Optional values:\n- QuantityChangeInCapacity: It is used to increase o
r decrease a specified number of ECS instances.\n- PercentChangeInCapacity: It is used to increase or decrease a specified prop
ortion of ECS instances.\n- TotalCapacity: It is used to adjust the quantity of ECS instances in the current scaling group to a
specified value.",
      "AllowedValues": [
        "QuantityChangeInCapacity",
        "PercentChangeInCapacity",
        "TotalCapacity"
      ]
    },
    "MetricName": {
      "Type": "String",
      "Description": "The predefined metric to monitor. This parameter is required and applicable only to target tracking scali
ng rules and predictive scaling rules.\nValid values of a target tracking scaling rule:\n- CpuUtilization: the average CPU util
ization- ClassicInternetRx: the average public network inbound traffic over the classic network\n- ClassicInternetTx: the avera
ge public network outbound traffic over the classic network\n- VpcInternetRx: the average public network inbound traffic over t
he VPC\n- VpcInternetTx: the average public network outbound traffic over the VPC\n- IntranetRx: the average internal network i
nbound traffic\n- IntranetTx: the average internal network outbound traffic\nValid values of a predictive scaling rule:\n- CpuU
tilization: the average CPU utilization\n- IntranetRx: the average internal network inbound traffic\n- IntranetTx: the average
internal network outbound traffic",
      "AllowedValues": [
        "CpuUtilization",
        "ClassicInternetRx",
        "ClassicInternetTx",
        "VpcInternetRx",
        "VpcInternetTx",
        "IntranetRx",
        "IntranetTx"
      ]
    },
    "ScalingRuleName": {
      "Type": "String",
      "Description": "Name shown for the scaling group, which is a string containing 2 to 40 English or Chinese characters. It
must begin with a number, a letter (case-insensitive) or a Chinese character and can contain numbers, \"_\", \"-\" or \". \". T
he account name in the same scaling group is unique in the same region. If this parameter value is not specified, the default v
alue is ScalingRuleId.",
      "AllowedPattern": "^[a-zA-Z0-9\\u4e00-\\u9fa5][-_.a-zA-Z0-9\\u4e00-\\u9fa5]{1,63}$"
    },
    "AdjustmentValue": {
      "Type": "Number",
      "Description": "Adjusted value of a scaling rule. Value range:\n- QuantityChangeInCapacity: [-500, 500]\n- PercentChangeI
nCapacity: [-100, 10000]\n- TotalCapacity: [0, 1000]",
      "MinValue": -500,
      "MaxValue": 10000
    },
    "InitialMaxSize": {
      "Type": "Number",
      "Description": "The maximum number of ECS instances in the scaling group, which is used together with PredictiveValueBeha
vior.\n Default value: the same as the value of MaxSize",
      "MinValue": 0,
      "MaxValue": 1000
    },
    "ScalingRuleType": {
      "Type": "String",
      "Description": "The type of the scaling rule. Valid values:\n- SimpleScalingRule: scales ECS instances based on the value
s of AdjustmentType and AdjustmentValue.\n- TargetTrackingScalingRule: dynamically calculates the number of ECS instances to be
adjusted and tries to keep the value of a predefined monitoring metric close to TargetValue.\n- StepScalingRule: scales ECS ins
tances in steps based on specified thresholds and metric values.\n- PredictiveScalingRule: uses machine learning to analyze his
torical monitoring data of the scaling group and then predicts the future values of monitored metrics, the rule then automatica
lly creates scheduled tasks to set the boundary values for the scaling group.\n If this parameter value is not specified, the d
efault value is SimpleScalingRule.",
      "AllowedValues": [
        "SimpleScalingRule",
        "TargetTrackingScalingRule",
        "StepScalingRule",
        "PredictiveScalingRule"
      ]
    },
```

```
    },
    "EstimatedInstanceWarmup": {
      "Type": "Number",
      "Description": "The warm-up period of the ECS instances. This parameter is applicable to target tracking scaling rules an
d step scaling rules. The system adds ECS instances that are in the warm-up state to the scaling group, but does not report mon
itoring data during the warm-up period to CloudMonitor.\nNote: When calculating the number of ECS instances to be adjusted, the
system does not count ECS instances in the warm-up state as part of the current capacity of the scaling group.\nValid values: 0
to 86400. Unit: seconds. Default value: 300.",
      "MinValue": 0,
      "MaxValue": 86400
    },
    "PredictiveScalingMode": {
      "Type": "String",
      "Description": "The mode of the predictive scaling rule. Valid values:\n- PredictAndScale: generates forecasts and create
s forecast tasks.\n- PredictOnly: generates forecasts but does not create forecast tasks.\nDefault value: PredictAndScale",
      "AllowedValues": [
        "PredictAndScale",
        "PredictOnly"
      ]
    },
    "PredictiveTaskBufferTime": {
      "Type": "Number",
      "Description": "The amount of buffer time ahead of the forecast task execution time. By default, all scheduled tasks that
are automatically created for a predictive scaling rule are executed at the beginning of each hour. You can set a buffer time t
o execute forecast tasks ahead of schedule, so that resources can be prepared in advance. Valid values: 0 to 60. Unit: minutes.
\n Default value: 0",
      "MinValue": 0,
      "MaxValue": 60
    },
    "PredictiveValueBuffer": {
      "Type": "Number",
      "Description": "The ratio of the increment to the predicted value when PredictiveValueBehavior is set to PredictiveValueO
verrideMaxWithBuffer. When the value after the increase is greater than the initial maximum capacity, the value after the incre
ase is used for forecast tasks. Valid values: 0 to 100\n Default value: 0",
      "MinValue": 0,
      "MaxValue": 100
    }
  },
  "Resources": {
    "ScalingRule": {
      "Type": "ALIYUN::ESS::ScalingRule",
      "Properties": {
        "TargetValue": {
          "Ref": "TargetValue"
        },
        "Cooldown": {
          "Ref": "Cooldown"
        },
        "ScalingGroupId": {
          "Ref": "ScalingGroupId"
        },
        "PredictiveValueBehavior": {
          "Ref": "PredictiveValueBehavior"
        },
        "MinAdjustmentMagnitude": {
          "Ref": "MinAdjustmentMagnitude"
        },
        "DisableScaleIn": {
          "Ref": "DisableScaleIn"
        },
        "StepAdjustment": {
          "Ref": "StepAdjustment"
        },
        "AdjustmentType": {
          "Ref": "AdjustmentType"
        },
        "MetricName": {
          "Ref": "MetricName"
        },
        "ScalingRuleName": {
          "Ref": "ScalingRuleName"
        },
        "AdjustmentValue": {
          "Ref": "AdjustmentValue"
        },
```

```
        "InitialMaxSize": {
          "Ref": "InitialMaxSize"
        },
        "ScalingRuleType": {
          "Ref": "ScalingRuleType"
        },
        "EstimatedInstanceWarmup": {
          "Ref": "EstimatedInstanceWarmup"
        },
        "PredictiveScalingMode": {
          "Ref": "PredictiveScalingMode"
        },
        "PredictiveTaskBufferTime": {
          "Ref": "PredictiveTaskBufferTime"
        },
        "PredictiveValueBuffer": {
          "Ref": "PredictiveValueBuffer"
        }
      }
    }
  },
  "Outputs": {
    "ScalingRuleAri": {
      "Description": "Unique identifier of a scaling rule.",
      "Value": {
        "Fn::GetAtt": [
          "ScalingRule",
          "ScalingRuleAri"
        ]
      }
    },
    "ScalingRuleId": {
      "Description": "ID of a scaling rule, generated by the system and globally unique.",
      "Value": {
        "Fn::GetAtt": [
          "ScalingRule",
          "ScalingRuleId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  TargetValue:
    Type: Number
    Description: >-
      The target value of a metric. This parameter is required and applicable
      only to target tracking scaling rules and predictive scaling rules. The
      value of TargetValue must be greater than 0 and can have a maximum of
      three decimal places.
  Cooldown:
    Type: Number
    Description: >-
      Cool-down time of a scaling rule. Value range: [0, 86,400], in seconds.
      The default value is empty.
    MinValue: 0
    MaxValue: 86400
  ScalingGroupId:
    Type: String
    Description: ID of the scaling group of a scaling rule.
  PredictiveValueBehavior:
    Type: String
    Description: >-
      The action taken on the predicted maximum value. Valid values:
      - MaxOverridePredictiveValue: uses the initial maximum capacity as the
      maximum value for forecast tasks when the predicted value is greater than
      the initial maximum capacity.
       - PredictiveValueOverrideMax: uses the predicted value as the maximum value for forecast tasks when the predicted value
is greater than the initial maximum capacity.
```

```
      - PredictiveValueOverrideMaxWithBuffer: Increases the predicted value with a ratio, which is specified by PredictiveValu
eBuffer. If the value after the increase is greater than the initial maximum capacity, the value after the increase is used as
the maximum value for forecast tasks.
       Default value: MaxOverridePredictiveValue
    AllowedValues:
      - MaxOverridePredictiveValue
      - PredictiveValueOverrideMax
      - PredictiveValueOverrideMaxWithBuffer
  MinAdjustmentMagnitude:
    Type: Number
    Description: >-
      The minimum number of ECS instances to be adjusted in a scaling rule. This
      parameter takes effect only when the scaling rule type is
      SimpleScalingRule or StepScalingRule and AdjustmentType is
      PercentChangeInCapacity.
    MinValue: 0
    MaxValue: 20
  DisableScaleIn:
    Type: Boolean
    Description: >-
      Specifies whether to disable scale-in. This parameter is applicable only
      to target tracking scaling rules.
       Default value: false
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  StepAdjustment:
    Type: Json
    Description: ''
  AdjustmentType:
    Type: String
    Description: >-
      Adjustment mode of a scaling rule. Optional values:
      - QuantityChangeInCapacity: It is used to increase or decrease a specified
      number of ECS instances.
      - PercentChangeInCapacity: It is used to increase or decrease a specified
      proportion of ECS instances.
      - TotalCapacity: It is used to adjust the quantity of ECS instances in the
      current scaling group to a specified value.
    AllowedValues:
      - QuantityChangeInCapacity
      - PercentChangeInCapacity
      - TotalCapacity
  MetricName:
    Type: String
    Description: >-
      The predefined metric to monitor. This parameter is required and
      applicable only to target tracking scaling rules and predictive scaling
      rules.
      Valid values of a target tracking scaling rule:
      - CpuUtilization: the average CPU utilization- ClassicInternetRx: the
      average public network inbound traffic over the classic network
      - ClassicInternetTx: the average public network outbound traffic over the
      classic network
      - VpcInternetRx: the average public network inbound traffic over the VPC
      - VpcInternetTx: the average public network outbound traffic over the VPC
      - IntranetRx: the average internal network inbound traffic
      - IntranetTx: the average internal network outbound traffic
      Valid values of a predictive scaling rule:
      - CpuUtilization: the average CPU utilization
      - IntranetRx: the average internal network inbound traffic
      - IntranetTx: the average internal network outbound traffic
    AllowedValues:
      - CpuUtilization
      - ClassicInternetRx
      - ClassicInternetTx
      - VpcInternetRx
      - VpcInternetTx
      - IntranetRx
      - IntranetTx
  ScalingRuleName:
    Type: String
    Description: >-
```

```
    Description: >
      Name shown for the scaling group, which is a string containing 2 to 40
      English or Chinese characters. It must begin with a number, a letter
      (case-insensitive) or a Chinese character and can contain numbers, "_",
      "-" or ".". The account name in the same scaling group is unique in the
      same region. If this parameter value is not specified, the default value
      is ScalingRuleId.
    AllowedPattern: '^[a-zA-Z0-9\u4e00-\u9fa5][-_.a-zA-Z0-9\u4e00-\u9fa5]{1,63}$'
  AdjustmentValue:
    Type: Number
    Description: |-
      Adjusted value of a scaling rule. Value range:
      - QuantityChangeInCapacity: [-500, 500]
      - PercentChangeInCapacity: [-100, 10000]
      - TotalCapacity: [0, 1000]
    MinValue: -500
    MaxValue: 10000
  InitialMaxSize:
    Type: Number
    Description: >-
      The maximum number of ECS instances in the scaling group, which is used
      together with PredictiveValueBehavior.
       Default value: the same as the value of MaxSize
    MinValue: 0
    MaxValue: 1000
  ScalingRuleType:
    Type: String
    Description: >-
      The type of the scaling rule. Valid values:
      - SimpleScalingRule: scales ECS instances based on the values of
      AdjustmentType and AdjustmentValue.
      - TargetTrackingScalingRule: dynamically calculates the number of ECS
      instances to be adjusted and tries to keep the value of a predefined
      monitoring metric close to TargetValue.
      - StepScalingRule: scales ECS instances in steps based on specified
      thresholds and metric values.
      - PredictiveScalingRule: uses machine learning to analyze historical
      monitoring data of the scaling group and then predicts the future values
      of monitored metrics, the rule then automatically creates scheduled tasks
      to set the boundary values for the scaling group.
       If this parameter value is not specified, the default value is SimpleScalingRule.
    AllowedValues:
      - SimpleScalingRule
      - TargetTrackingScalingRule
      - StepScalingRule
      - PredictiveScalingRule
  EstimatedInstanceWarmup:
    Type: Number
    Description: >-
      The warm-up period of the ECS instances. This parameter is applicable to
      target tracking scaling rules and step scaling rules. The system adds ECS
      instances that are in the warm-up state to the scaling group, but does not
      report monitoring data during the warm-up period to CloudMonitor.
      Note: When calculating the number of ECS instances to be adjusted, the
      system does not count ECS instances in the warm-up state as part of the
      current capacity of the scaling group.
      Valid values: 0 to 86400. Unit: seconds. Default value: 300.
    MinValue: 0
    MaxValue: 86400
  PredictiveScalingMode:
    Type: String
    Description: |-
      The mode of the predictive scaling rule. Valid values:
      - PredictAndScale: generates forecasts and creates forecast tasks.
      - PredictOnly: generates forecasts but does not create forecast tasks.
      Default value: PredictAndScale
    AllowedValues:
      - PredictAndScale
      - PredictOnly
  PredictiveTaskBufferTime:
    Type: Number
    Description: >-
      The amount of buffer time ahead of the forecast task execution time. By
      default, all scheduled tasks that are automatically created for a
      predictive scaling rule are executed at the beginning of each hour. You
```

```
      can set a buffer time to execute forecast tasks ahead of schedule, so that
      resources can be prepared in advance. Valid values: 0 to 60. Unit:
      minutes.
       Default value: 0
    MinValue: 0
    MaxValue: 60
  PredictiveValueBuffer:
    Type: Number
    Description: >-
      The ratio of the increment to the predicted value when
      PredictiveValueBehavior is set to PredictiveValueOverrideMaxWithBuffer.
      When the value after the increase is greater than the initial maximum
      capacity, the value after the increase is used for forecast tasks. Valid
      values: 0 to 100
       Default value: 0
    MinValue: 0
    MaxValue: 100
Resources:
  ScalingRule:
    Type: 'ALIYUN::ESS::ScalingRule'
    Properties:
      TargetValue:
        Ref: TargetValue
      Cooldown:
        Ref: Cooldown
      ScalingGroupId:
        Ref: ScalingGroupId
      PredictiveValueBehavior:
        Ref: PredictiveValueBehavior
      MinAdjustmentMagnitude:
        Ref: MinAdjustmentMagnitude
      DisableScaleIn:
        Ref: DisableScaleIn
      StepAdjustment:
        Ref: StepAdjustment
      AdjustmentType:
        Ref: AdjustmentType
      MetricName:
        Ref: MetricName
      ScalingRuleName:
        Ref: ScalingRuleName
      AdjustmentValue:
        Ref: AdjustmentValue
      InitialMaxSize:
        Ref: InitialMaxSize
      ScalingRuleType:
        Ref: ScalingRuleType
      EstimatedInstanceWarmup:
        Ref: EstimatedInstanceWarmup
      PredictiveScalingMode:
        Ref: PredictiveScalingMode
      PredictiveTaskBufferTime:
        Ref: PredictiveTaskBufferTime
      PredictiveValueBuffer:
        Ref: PredictiveValueBuffer
Outputs:
  ScalingRuleAri:
    Description: Unique identifier of a scaling rule.
    Value:
      'Fn::GetAtt':
        - ScalingRule
        - ScalingRuleAri
  ScalingRuleId:
    Description: 'ID of a scaling rule, generated by the system and globally unique.'
    Value:
      'Fn::GetAtt':
        - ScalingRule
        - ScalingRuleId
```

33.8. ALIYUN::ESS::ScheduledTask

ALIYUN::ESS::ScheduledTask is used to create a scheduled task based on specified parameters.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScheduledTask",
  "Properties": {
    "TaskEnabled": Boolean,
    "Description": String,
    "ScheduledTaskName": String,
    "LaunchExpirationTime": Integer,
    "LaunchTime": String,
    "RecurrenceEndTime": String,
    "RecurrenceType": String,
    "RecurrenceValue": String,
    "ScheduledAction": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TaskEnabled	Boolean	No	Yes	Specifies whether to enable the scheduled task.	Valid values: • true: enables the task. This is the default value. • false: stops the task.
Description	String	No	Yes	The description of the scheduled task.	The description must be 2 to 200 characters in length.
ScheduledTaskName	String	No	Yes	The display name of the scheduled task.	The name must be 2 to 40 characters in length and can contain digits, letters, underscores (_), hyphens (-), and periods (.). It must start with a digit or letter. The name of the scheduled task must be unique to an Alibaba Cloud account in a region. If you do not specify this parameter, the default value is the ID of the scheduled scaling task.
LaunchExpirationTime	Integer	No	Yes	The period of time over which a failed scheduled task is retried.	Valid values: 0 to 21600. Unit: seconds. Default value: 600.

Property	Type	Required	Editable	Description	Constraint
LaunchTime	String	Yes	Yes	The time at which the scheduled task is triggered.	Specify the time in the ISO 8601 standard in the `YYYY-MM-DDThh:mmZ` format. The time must be in UTC. • If the RecurrenceType parameter is specified, the task is executed each day at the time specified by LaunchTime. • If the RecurrenceType parameter is not specified, the task is executed only once at the time specified by LaunchTime. You cannot enter a time point later than 90 days from the date of scheduled task creation or modification.
RecurrenceEndTime	String	No	Yes	The end time of the scheduled task to be repeated.	Specify the time in the ISO 8601 standard in the `YYYY-MM-DDThh:mmZ` format. The time must be in UTC. You cannot enter a time point later than 90 days from the date of scheduled task creation or modification. If you set RecurrenceEndTime, you must also set both RecurrenceType and RecurrenceValue.

Property	Type	Required	Editable	Description	Constraint
RecurrenceType	String	No	Yes	The interval at which the scheduled task is repeated.	Valid values: • Daily: The scheduled task is executed once every specified number of days. • Weekly: The scheduled task is executed on each specified day of a week. • Monthly: The scheduled task is executed on each specified day of a month. • Cron: The scheduled task is executed based on the specified Cron expression. If you set RecurrenceType, you must also set both RecurrenceEndTime and RecurrenceValue.

Property	Type	Required	Editable	Description	Constraint
RecurrenceValue	String	No	Yes	The recurrence value of the scheduled task to be repeated.	• Valid values when RecurrenceType is set to Daily: 1 to 31. • Valid values when RecurrenceType is set to Weekly: 0 to 6. You can enter multiple values separated by commas (,). The values 0 to 6 correspond to the days of the week in sequence from Sunday to Saturday. • Valid values when RecurrenceType is set to Monthly: two values ranging from 1 to 31 in the A-B format. B must be greater than or equal to A. • Valid values when RecurrenceType is set to Cron: a Cron expression. A Cron expression is written in UTC time and consists of five fields: minute, hour, day of month (date), month, and day of week. The expression can contain wildcard characters including commas (,), question marks (?), hyphens (-), asterisks (*), number signs (#), forward slashes (/), and the L and W characters. If you set RecurrenceValue, you must also set both RecurrenceEndTime and RecurrenceType.
ScheduledAction	String	Yes	Yes	The operations to be performed when the scheduled task is triggered.	The parameter value can be up to 200 characters in length. When you set this parameter, you must also enter the unique identifier of the scaling rule.

Response parameters

Fn::GetAtt

ScheduledTaskId: the ID of the scheduled task. This ID is a globally unique identifier (GUID) generated by the system.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ScheduledTask": {
      "Type": "ALIYUN::ESS::ScheduledTask",
      "Properties": {
        "TaskEnabled": "true",
        "Description": "scheduledtask",
        "ScheduledTaskName": "task1",
        "LaunchTime": "2014-08-17T16:52Z",
        "RecurrenceEndTime": "2014-08-17T16:55Z",
        "RecurrenceType": "Daily",
        "RecurrenceValue": "1",
        "ScheduledAction": "ari:acs:ess:cn-qingdao:1344371:scalingRule/cCBpdYdQuBe2cUxOdu6piOk"
      }
    }
  },
  "Outputs": {
    "ScheduledTaskId": {
      "Value": {
        "FN::GetAtt": [
          "ScheduledTask",
          "ScheduledTaskId"
        ]
      }
    }
  }
}
```

34.FC

34.1. ALIYUN::FC::Alias

ALIYUN::FC::Alias is used to create an Alias.

Syntax

```
{
  "Type": "ALIYUN::FC::Alias",
  "Properties": {
    "Description": String,
    "VersionId": String,
    "ServiceName": String,
    "AliasName": String,
    "AdditionalVersion": String,
    "AdditionalWeight": Integer
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
Description	String	Not supported	Supported	The description of the alias.	The description must be 1 to 256 characters in length.
VersionId	String	Not supported	Supported	The ID of the version.	None
ServiceName	String	Yes	Not supported	Service name	None
AliasName	String	Yes	Yes	Alias	It must be 1 to 128 characters in length and can start with a letter or underscore (_).
AdditionalVersion	String	Not supported	Supported	Canary version	The version cannot be the same as the primary key version.
AdditionalWeight	Integer	Not supported	Supported	Canary version weight	Valid values: 0 to 100.

Return value

Fn::GetAtt

- Version ID: The version ID.
- ServiceName: The name of the function Compute Service.
- AliasName: The alias.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Alias": {
      "Type": "ALIYUN::FC::Alias",
      "Properties": {
        "AdditionalVersion": {
          "Ref": "AdditionalVersion"
        },
        "Description": {
          "Ref": "Description"
        },
        "VersionId": {
          "Ref": "VersionId"
        },
```

```
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "AliasName": {
          "Ref": "AliasName"
        },
        "AdditionalWeight": {
          "Ref": "AdditionalWeight"
        }
      }
    }
  },
  "Parameters": {
    "AdditionalVersion": {
      "Type": "String",
      "Description": "Additional version"
    },
    "Description": {
      "Type": "String",
      "Description": "Version description"
    },
    "VersionId": {
      "Type": "String",
      "Description": "Version ID"
    },
    "ServiceName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Service name",
      "MaxLength": 128
    },
    "AliasName": {
      "Type": "String",
      "Description": "Alias name"
    },
    "AdditionalWeight": {
      "Type": "Number",
      "Description": "Traffic weight of additional version. From 0 to 100.",
      "MaxValue": 100,
      "MinValue": 0
    }
  },
  "Outputs": {
    "VersionId": {
      "Description": "The version ID",
      "Value": {
        "Fn::GetAtt": [
          "Alias",
          "VersionId"
        ]
      }
    },
    "ServiceName": {
      "Description": "The service name",
      "Value": {
        "Fn::GetAtt": [
          "Alias",
          "ServiceName"
        ]
      }
    },
    "AliasName": {
      "Description": "The alias name",
      "Value": {
        "Fn::GetAtt": [
          "Alias",
          "AliasName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Alias:
    Type: 'ALIYUN::FC::Alias'
    Properties:
      AdditionalVersion:
        Ref: AdditionalVersion
      Description:
        Ref: Description
      VersionId:
        Ref: VersionId
      ServiceName:
        Ref: ServiceName
      AliasName:
        Ref: AliasName
      AdditionalWeight:
        Ref: AdditionalWeight
Parameters:
  AdditionalVersion:
    Type: String
    Description: Additional version
  Description:
    Type: String
    Description: Version description
  VersionId:
    Type: String
    Description: Version ID
  ServiceName:
    MinLength: 1
    Type: String
    Description: Service name
    MaxLength: 128
  AliasName:
    Type: String
    Description: Alias name
  AdditionalWeight:
    Type: Number
    Description: Traffic weight of additional version. From 0 to 100.
    MaxValue: 100
    MinValue: 0
Outputs:
  VersionId:
    Description: The version ID
    Value:
      'Fn::GetAtt':
        -Alias
        -VersionId
  ServiceName:
    Description: The service name
    Value:
      'Fn::GetAtt':
        -Alias
        -ServiceName
  AliasName:
    Description: The alias name
    Value:
      'Fn::GetAtt':
        -Alias
        -AliasName
```

34.2. ALIYUN::FC::CustomDomain

ALIYUN::FC::CustomDomain is used to create a custom domain name.

Syntax

```
{
  "Type": "ALIYUN::FC::CustomDomain",
  "Properties": {
    "ApiVersion": String,
    "Protocol": String,
    "RouteConfig": Map,
    "CertConfig": Map,
    "DomainName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ApiVersion	String	No	Yes	The version of the API.	None
Protocol	String	Yes	Yes	The protocol type.	Valid values: • HTTP • HTTPS
RouteConfig	Map	No	Yes	The configuration of the route table.	For more information, see RouteConfig properties.
CertConfig	Map	No	Yes	The certificate information.	For more information, see CertConfig properties.
DomainName	String	Yes	No	The domain name.	None

RouteConfig syntax

```
"RouteConfig": {
  "Routes": List
}
```

RouteConfig properties

Property	Type	Required	Editable	Description	Constraint
Routes	List	Yes	Yes	The list of routes.	For more information, see Routes properties.

Routes syntax

```
"Routes": [
  {
    "Path": String,
    "FunctionName": String,
    "ServiceName": String,
    "Qualifier": String
  }
]
```

Routes properties

Property	Type	Required	Editable	Description	Constraint
Path	String	Yes	Yes	The request path of the custom domain name. Example: `/login/*`.	None
Qualifier	String	No	No	The alias of the request path.	None

Property	Type	Required	Editable	Description	Constraint
FunctionName	String	Yes	Yes	The function corresponding to the request path.	None
ServiceName	String	Yes	Yes	The service to which the function belongs.	None

CertConfig syntax

```
"CertConfig": {
  "CertName": String,
  "PrivateKey": String,
  "Certificate": String
}
```

CertConfig properties

Property	Type	Required	Editable	Description	Constraint
CertName	String	Yes	Yes	The custom name of the certificate.	None
PrivateKey	String	Yes	Yes	The private key.	Specify this parameter in one line by using line breaks (`\n`).
Certificate	String	Yes	Yes	The content of the certificate.	Specify this parameter in one line by using line breaks (`\n`).

Response parameters

Fn::GetAtt

- DomainName: the domain name.
- Domain: the protocol and the domain name.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ApiVersion": {
      "Type": "String",
      "Description": "api version"
    },
    "CertConfig": {
      "Type": "Json",
      "Description": "certificate info"
    },
    "DomainName": {
      "Type": "String",
      "Description": "domain name"
    },
    "RouteConfig": {
      "Type": "Json",
      "Description": "Routing table: path to function mappingwhen a function is called with a custom domain name"
    },
    "Protocol": {
      "Type": "String",
      "Description": "HTTP or HTTP,HTTPS"
    }
  },
  "Resources": {
    "CustomDomain": {
      "Type": "ALIYUN::FC::CustomDomain",
      "Properties": {
        "ApiVersion": {
          "Ref": "ApiVersion"
        },
        "CertConfig": {
          "Ref": "CertConfig"
        },
        "DomainName": {
          "Ref": "DomainName"
        },
        "RouteConfig": {
          "Ref": "RouteConfig"
        },
        "Protocol": {
          "Ref": "Protocol"
        }
      }
    }
  },
  "Outputs": {
    "DomainName": {
      "Description": "The domain name",
      "Value": {
        "Fn::GetAtt": [
          "CustomDomain",
          "DomainName"
        ]
      }
    },
    "Domain": {
      "Description": "The domain with protocol.",
      "Value": {
        "Fn::GetAtt": [
          "CustomDomain",
          "Domain"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ApiVersion:
    Type: String
    Description: api version
  CertConfig:
    Type: Json
    Description: certificate info
  DomainName:
    Type: String
    Description: domain name
  RouteConfig:
    Type: Json
    Description: >-
      Routing table: path to function mappingwhen a function is called with a
      custom domain name
  Protocol:
    Type: String
    Description: 'HTTP or HTTP,HTTPS'
Resources:
  CustomDomain:
    Type: 'ALIYUN::FC::CustomDomain'
    Properties:
      ApiVersion:
        Ref: ApiVersion
      CertConfig:
        Ref: CertConfig
      DomainName:
        Ref: DomainName
      RouteConfig:
        Ref: RouteConfig
      Protocol:
        Ref: Protocol
Outputs:
  DomainName:
    Description: The domain name
    Value:
      'Fn::GetAtt':
        - CustomDomain
        - DomainName
  Domain:
    Description: The domain with protocol.
    Value:
      'Fn::GetAtt':
        - CustomDomain
        - Domain
```

34.3. ALIYUN::FC::Function

ALIYUN::FC::Function is used to create a function. Functions must be associated with services. All functions of a service share the same properties as the service, such as service authorizations and logging configurations.

Syntax

```
{
  "Type": "ALIYUN::FC::Function",
  "Properties": {
    "Code": Map,
    "FunctionName": String,
    "ServiceName": String,
    "InstanceType": String,
    "MemorySize": Integer,
    "InstanceConcurrency": Integer,
    "EnvironmentVariables": Map,
    "Initializer": String,
    "Handler": String,
    "Timeout": Integer,
    "InitializationTimeout": Integer,
    "CustomContainerConfig": Map,
    "AsyncConfiguration": Map,
    "CAPort": Integer,
    "Runtime": String,
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Initializer	String	No	Yes	The handler used by Function Compute to initialize the function.	The format is determined by the programming language.
InitializationTimeout	Integer	No	Yes	The timeout period for Function Compute to initialize the function.	Valid values: 1 to 300. Unit: seconds. Default value: 3. If the function is not initialized within the specified period, Function Compute terminates the initialization.
Code	Map	No	Yes	The code of the function. The code must be packaged into a ZIP file.	For more information, see the Code properties section in this topic.
InstanceType	String	No	Yes	The type of the function instance.	Valid values: • e1: elastic instance • c1: performance instance
Description	String	No	Yes	The description of the function.	None
ServiceName	String	Yes	No	The name of the service.	The name must be 1 to 128 characters in length.
MemorySize	Integer	No	Yes	The memory size of the function.	• Valid values: 128 to 3072. The value must be a multiple of 64. • Valid values for a performance instance: 4096, 8192, 16384, and 32768. Unit: MB.
InstanceConcurrency	Integer	No	Yes	The number of requests that a function can process at a time.	Valid values: 1 to 100 **Note** Python functions do not support this parameter.

Property	Type	Required	Editable	Description	Constraint
EnvironmentVariables	Map	No	Yes	The environment variables for the function.	None
Handler	String	Yes	Yes	The handler that is used by Function Compute to invoke the function.	For example, if you set Handler to index.handler when you create a Python function, Function Compute loads the handler function defined in the index.py file. The format is determined by the programming language.
Timeout	Integer	No	Yes	The timeout period for Function Compute to invoke the function.	Valid values: 1 to 600. Default value: 3. Unit: seconds. If the function is not invoked within the specified period, Function Compute terminates the invocation.
Runtime	String	Yes	Yes	The runtime environment of the function.	Valid values: nodejs6, nodejs8, nodejs10, nodejs12, python2.7, python3, java8, custom, and custom-container.
FunctionName	String	Yes	No	The name of the function.	The name must be 1 to 128 characters in length. and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter or underscore (_).
CustomContainerConfig	Map	No	Yes	The configurations of the runtime environment when Runtime is set to custom-container. If you specify this parameter, you can use a custom container image to invoke functions.	For more information, see the CustomContainerConfig properties section in this topic.
CAPort	Integer	No	Yes	The port on which the HTTP server is listening.	Default value: 9000. **Note** This parameter is valid only when the Runtime parameter is set to custom or custom-container.
AsyncConfiguration	Map	No	Yes	The asynchronous invocation configurations.	For more information, see the AsyncConfiguration properties section in this topic.

Code syntax

```
"Code": {
  "OssBucketName": String,
  "OssObjectName": String,
  "ZipFile": String,
  "SourceCode": String
}
```

Code properties

Property	Type	Required	Editable	Description	Constraint
OssBucketName	String	No	Yes	The name of the bucket where the function code ZIP file is stored.	None

Property	Type	Required	Editable	Description	Constraint
OssObjectName	String	No	Yes	The name of the object where the function code ZIP file is stored.	None
ZipFile	String	No	Yes	The Base64-encoded ZIP file to be uploaded in the request body.	None
SourceCode	String	No	Yes	The source code of the function. Node.js, PHP, and Python code is supported.	The code can be up to 4,096 characters in length. ROS writes the value of this parameter into a UTF-8 encoded file that is named index. When the ZipFile, SourceCode, and OssBucketName (or OssObjectName) parameters are all specified, the three parameters are in descending order of priority.

CustomContainerConfig syntax

```
"CustomContainerConfig": {
  "Command": String,
  "Args": String,
  "Image": String,
  "AccelerationType": String
}
```

CustomContainerConfig properties

Property	Type	Required	Editable	Description	Constraint
Command	String	No	Yes	The command to be run to start the container.	Example: `["/code/myserver"]`.
Args	String	No	Yes	The startup arguments of the container.	Example: `["-arg1", "value1"]`.
Image	String	Yes	Yes	The URL of the container image.	Example: `registry-vpc.cn-hangzhou.aliyuncs.com/fc-demo/helloworld:v1beta1`.
AccelerationType	String	No	Yes	Specifies whether to enable image pull acceleration.	Default value: None. Valid values: • Default: Image pull acceleration is enabled. • None: Image pull acceleration is disabled.

AsyncConfiguration syntax

```
"AsyncConfiguration": {
  "Destination": Map
  "MaxAsyncRetryAttempts": Integer,
  "MaxAsyncEventAgeInSeconds": Integer
}
```

AsyncConfiguration properties

Property	Type	Required	Editable	Description	Constraint
Destination	Map	No	No	The destination for asynchronous invocation.	For more information, see the Destination properties section in this topic.

Property	Type	Required	Editable	Description	Constraint
MaxAsyncRetryAttempts	Integer	No	Yes	The maximum number of retries for the asynchronous invocation.	None
MaxAsyncEventAgeInSeconds	Integer	No	Yes	The maximum lifetime of messages.	None

Destination syntax

```
"Destination": {
  "OnSuccess": String,
  "OnFailure": String
}
```

Destination properties

Property	Type	Required	Editable	Description	Constraint
OnSuccess	String	No	Yes	The destination that Function Compute invokes when the function is executed.	None
OnFailure	String	No	Yes	The destination that Function Compute invokes when the function fails to be executed due to a system error or an error of the function.	None

Response parameters

Fn::GetAtt

- FunctionId: the unique ID generated by the system for each function.
- ServiceName: the name of the service.
- ARN: the Alibaba Cloud Resource Name (ARN) of the function.
- FunctionName: the name of the function.
- ServiceId: the function service ID.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "MemorySize": {
      "Type": "Number",
      "Description": "The amount of memory that's used to run function, in MB. Function Compute uses this value to allocate CPU resources proportionally. Defaults to 128 MB. It can be multiple of 64 MB and between 128 MB and 3072 MB.",
      "MinValue": 128,
      "MaxValue": 32768,
      "Default": 128
    },
    "Description": {
      "Type": "String",
      "Description": "Function description"
    },
    "Timeout": {
      "Type": "Number",
      "Description": "The maximum time duration a function can run, in seconds. After which Function Compute terminates the execution. Defaults to 3 seconds, and can be between 1 to 600 seconds.",
      "MinValue": 1,
```

```
      "MaxValue": 600,
      "Default": 3
    },
    "Handler": {
      "Type": "String",
      "Description": "The function execution entry point."
    },
    "CustomContainerConfig": {
      "Type": "Json",
      "Description": "Custom container runtime related configuration. After configuration, the function can be replaced with a
custom container to execute the function"
    },
    "Code": {
      "Type": "Json",
      "Description": "The code that contains the function implementation."
    },
    "AsyncConfiguration": {
      "Type": "Json",
      "Description": "Configuration of asynchronous function calls"
    },
    "CAPort": {
      "Type": "Number",
      "Description": "Custom runtime and custom container runtime dedicated fields, which represent the port that the started c
ustom http server listens to. The default value is 9000",
      "Default": 9000
    },
    "FunctionName": {
      "Type": "String",
      "Description": "Function name"
    },
    "Runtime": {
      "Type": "String",
      "Description": "The function runtime environment. Supporting nodejs6, nodejs8, nodejs10, nodejs12, python2.7, python3, ja
va8, custom, custom-container and so on"
    },
    "EnvironmentVariables": {
      "Type": "Json",
      "Description": "The environment variable set for the function, you can get the value of the environment variable in the f
unction."
    },
    "ServiceName": {
      "Type": "String",
      "Description": "Service name",
      "MinLength": 1,
      "MaxLength": 128
    },
    "Initializer": {
      "Type": "String",
      "Description": "the entry point of the initializer"
    },
    "InitializationTimeout": {
      "Type": "Number",
      "Description": "the max execution time of the initializer, in second"
    },
    "InstanceConcurrency": {
      "Type": "Number",
      "Description": "Function instance concurrency. Value can be between 1 to 100.",
      "MinValue": 1,
      "MaxValue": 100
    },
    "InstanceType": {
      "Type": "String",
      "Description": "Instance type. Value:e1: flexible instance. Memory size between 128 and 3072c1: performance instance. Mem
ory size allow values are 4096, 8192, 16384 and 32768",
      "AllowedValues": [
        "e1",
        "c1"
      ]
    }
  },
  "Resources": {
    "Function": {
      "Type": "ALIYUN::FC::Function",
      "Properties": {
```

```
        "MemorySize": {
          "Ref": "MemorySize"
        },
        "Description": {
          "Ref": "Description"
        },
        "Timeout": {
          "Ref": "Timeout"
        },
        "Handler": {
          "Ref": "Handler"
        },
        "CustomContainerConfig": {
          "Ref": "CustomContainerConfig"
        },
        "Code": {
          "Ref": "Code"
        },
        "AsyncConfiguration": {
          "Ref": "AsyncConfiguration"
        },
        "CAPort": {
          "Ref": "CAPort"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "Runtime": {
          "Ref": "Runtime"
        },
        "EnvironmentVariables": {
          "Ref": "EnvironmentVariables"
        },
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "Initializer": {
          "Ref": "Initializer"
        },
        "InitializationTimeout": {
          "Ref": "InitializationTimeout"
        },
        "InstanceConcurrency": {
          "Ref": "InstanceConcurrency"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        }
      }
    }
  },
  "Outputs": {
    "FunctionId": {
      "Description": "The function ID",
      "Value": {
        "Fn::GetAtt": [
          "Function",
          "FunctionId"
        ]
      }
    },
    "FunctionName": {
      "Description": "The function name",
      "Value": {
        "Fn::GetAtt": [
          "Function",
          "FunctionName"
        ]
      }
    },
    "ServiceName": {
      "Description": "The service name",
      "Value": {
        "Fn::GetAtt": [
```

```
          "Function",
          "ServiceName"
        ]
      }
    },
    "ARN": {
      "Description": "The ARN for ALIYUN::ROS::CustomResource",
      "Value": {
        "Fn::GetAtt": [
          "Function",
          "ARN"
        ]
      }
    },
    "ServiceId": {
      "Description": "The service ID",
      "Value": {
        "Fn::GetAtt": [
          "Function",
          "ServiceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AsyncConfiguration:
    Description: Configuration of asynchronous function calls
    Type: Json
  CAPort:
    Default: 9000
    Description: Custom runtime and custom container runtime dedicated fields, which
      represent the port that the started custom http server listens to. The default
      value is 9000
    Type: Number
  Code:
    Description: The code that contains the function implementation.
    Type: Json
  CustomContainerConfig:
    Description: Custom container runtime related configuration. After configuration,
      the function can be replaced with a custom container to execute the function
    Type: Json
  Description:
    Description: Function description
    Type: String
  EnvironmentVariables:
    Description: The environment variable set for the function, you can get the value
      of the environment variable in the function.
    Type: Json
  FunctionName:
    Description: Function name
    Type: String
  Handler:
    Description: The function execution entry point.
    Type: String
  InitializationTimeout:
    Description: the max execution time of the initializer, in second
    Type: Number
  Initializer:
    Description: the entry point of the initializer
    Type: String
  InstanceConcurrency:
    Description: Function instance concurrency. Value can be between 1 to 100.
    MaxValue: 100
    MinValue: 1
    Type: Number
  InstanceType:
    AllowedValues:
    - e1
    - c1
```

```
      c1
    Description: 'Instance type. Value:e1: flexible instance. Memory size between
      128 and 3072c1: performance instance. Memory size allow values are 4096, 8192,
      16384 and 32768'
    Type: String
  MemorySize:
    Default: 128
    Description: "The amount of memory that\u2019s used to run function, in MB. Function\
      \ Compute uses this value to allocate CPU resources proportionally. Defaults\
      \ to 128 MB. It can be multiple of 64 MB and between 128 MB and 3072 MB."
    MaxValue: 32768
    MinValue: 128
    Type: Number
  Runtime:
    Description: The function runtime environment. Supporting nodejs6, nodejs8, nodejs10,
      nodejs12, python2.7, python3, java8, custom, custom-container and so on
    Type: String
  ServiceName:
    Description: Service name
    MaxLength: 128
    MinLength: 1
    Type: String
  Timeout:
    Default: 3
    Description: The maximum time duration a function can run, in seconds. After which
      Function Compute terminates the execution. Defaults to 3 seconds, and can be
      between 1 to 600 seconds.
    MaxValue: 600
    MinValue: 1
    Type: Number
Resources:
  Function:
    Properties:
      AsyncConfiguration:
        Ref: AsyncConfiguration
      CAPort:
        Ref: CAPort
      Code:
        Ref: Code
      CustomContainerConfig:
        Ref: CustomContainerConfig
      Description:
        Ref: Description
      EnvironmentVariables:
        Ref: EnvironmentVariables
      FunctionName:
        Ref: FunctionName
      Handler:
        Ref: Handler
      InitializationTimeout:
        Ref: InitializationTimeout
      Initializer:
        Ref: Initializer
      InstanceConcurrency:
        Ref: InstanceConcurrency
      InstanceType:
        Ref: InstanceType
      MemorySize:
        Ref: MemorySize
      Runtime:
        Ref: Runtime
      ServiceName:
        Ref: ServiceName
      Timeout:
        Ref: Timeout
    Type: ALIYUN::FC::Function
Outputs:
  ARN:
    Description: The ARN for ALIYUN::ROS::CustomResource
    Value:
      Fn::GetAtt:
      - Function
      - ARN
  FunctionId:
    Description: The function ID
```

```
    Value:
      Fn::GetAtt:
      - Function
      - FunctionId
  FunctionName:
    Description: The function name
    Value:
      Fn::GetAtt:
      - Function
      - FunctionName
  ServiceId:
    Description: The service ID
    Value:
      Fn::GetAtt:
      - Function
      - ServiceId
  ServiceName:
    Description: The service name
    Value:
      Fn::GetAtt:
      - Function
      - ServiceName
```

For more examples, visit FunctionInvoker.json and FunctionInvoker.yml. In the examples, the ALIYUN::FC::Service, ALIYUN::FC::Function, ALIYUN::FC::FunctionInvoker, ALIYUN::FC::Trigger, ALIYUN::FC::Version, ALIYUN::FC::Alias, and ALIYUN::FC::ProvisionConfig resource types are involved.

34.4. ALIYUN::FC::FunctionInvoker

ALIYUN::FC::FunctionInvoker is used to invoke a function.

Syntax

```
{
  "Type": "ALIYUN::FC::FunctionInvoker",
  "Properties": {
    "Qualifier": String,
    "ServiceName": String,
    "ExecuteVersion": Integer,
    "Async": Boolean,
    "Event": String,
    "FunctionName": String,
    "CheckError": Boolean,
    "ServiceRegionId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ServiceName	String	Yes	Yes	The name of the service.	The name must be 1 to 128 characters in length.
FunctionName	String	Yes	Yes	The name of the function.	None
Async	Boolean	No	Yes	Specifies whether to enable asynchronous function invocation.	Default value: false. Valid values: • true • false
Event	String	No	Yes	The event that is processed by the function.	The parameter value is passed into the function as a UTF-8 encoded string. If the value is a binary string, encode it in Base64 before it is passed in.

Property	Type	Required	Editable	Description	Constraint
Qualifier	String	No	Yes	The version of the service.	Valid values: • versionId • aliasName
ExecuteVersion	Integer	No	Yes	The version of the identifier for the function to be invoked. If you specify this parameter when you create the resource, the function is invoked. Otherwise, the function is not invoked. If the parameter value changes and the new value is valid when you update the resource, the function is invoked. Otherwise, the function is not invoked.	None
CheckError	Boolean	No	No	Specifies whether to check the results of the invocation.	Default value: false. Valid values: • true Note If this parameter is set to true and the invocation fails, the resource fails to be created. • false
ServiceRegionId	String	No	No	The region ID of the function service.	None

Response parameters

Fn::GetAtt

- ResultType:
  - If Async is set to true and ResultType is set to NoResult, no result is returned.
  - If Async is set to false and ResultType is set to Success, the invocation is successful.
  - If Async is set to false and ResultType is set to Failure, the invocation fails.
- Result:
  - If ResultType is set to NoResult, the value of Result is null.
  - If ResultType is set to Success, the value of Result is the function invocation result. Users can interpret this response based on their function implementation. The returned result must be a UTF-8 encoded string. Otherwise, the function invocation fails. If the result is a binary string, encode it in Base64 before it is returned.
  - If ResultType is set to Failure, an error message is returned for Result.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "FunctionName": {
      "Type": "String",
      "Description": "Function name"
    },
```

```
    "ExecuteVersion": {
      "Type": "Number",
      "Description": "If the property is not specified for creation and update, the function will not be invoked. The change of
the property leads to the invoke of the function."
    },
    "ServiceRegionId": {
      "Type": "String",
      "Description": "Which region service belongs to."
    },
    "ServiceName": {
      "Type": "String",
      "Description": "Service name",
      "MinLength": 1,
      "MaxLength": 128
    },
    "Async": {
      "Type": "Boolean",
      "Description": "Invocation type, Sync or Async. Defaults to Sync.",
      "AllowedValues": [
        true,
        false
      ],
      "Default": false
    },
    "Event": {
      "Type": "String",
      "Description": "This value is passed to function as utf-8 encoded string.It’s function’s responsibility to interpret the
value.\nIf the value needs to be binary, encode it via base64 before passing to this property."
    },
    "Qualifier": {
      "Type": "String",
      "Description": "service version, can be versionId or aliasName"
    },
    "CheckError": {
      "Type": "Boolean",
      "Description": "Whether check error for function invocation result.\nIf set true and function invocation result has error
, the resource creation will be regard as failed.\nDefault is false",
      "AllowedValues": [
        true,
        false
      ]
    }
  },
  "Resources": {
    "FunctionInvoker": {
      "Type": "ALIYUN::FC::FunctionInvoker",
      "Properties": {
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "ExecuteVersion": {
          "Ref": "ExecuteVersion"
        },
        "ServiceRegionId": {
          "Ref": "ServiceRegionId"
        },
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "Async": {
          "Ref": "Async"
        },
        "Event": {
          "Ref": "Event"
        },
        "Qualifier": {
          "Ref": "Qualifier"
        },
        "CheckError": {
          "Ref": "CheckError"
        }
      }
    }
  },
```

```
  "Outputs": {
    "ResultType": {
      "Description": "Result type:\nNoResult: Async invoke has no result.\nSuccess: Sync invoke succeeds.\nFailure: Sync invoke
fails.",
      "Value": {
        "Fn::GetAtt": [
          "FunctionInvoker",
          "ResultType"
        ]
      }
    },
    "Result": {
      "Description": "Depends on result type:\nNoResult: Async invoke has no result.\nSuccess: The response of the function. Th
e response should be utf-8 encoded string, otherwise ROS will report an error. If the response is binary, encode it via base64
before it is returned.\nFailure: Error Message.",
      "Value": {
        "Fn::GetAtt": [
          "FunctionInvoker",
          "Result"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  FunctionName:
    Type: String
    Description: Function name
  ExecuteVersion:
    Type: Number
    Description: >-
      If the property is not specified for creation and update, the function
      will not be invoked. The change of the property leads to the invoke of the
      function.
  ServiceRegionId:
    Type: String
    Description: Which region service belongs to.
  ServiceName:
    Type: String
    Description: Service name
    MinLength: 1
    MaxLength: 128
  Async:
    Type: Boolean
    Description: 'Invocation type, Sync or Async. Defaults to Sync.'
    AllowedValues:
      - true
      - false
    Default: false
  Event:
    Type: String
    Description: >-
      This value is passed to function as utf-8 encoded string.It’s function’s
      responsibility to interpret the value.
      If the value needs to be binary, encode it via base64 before passing to
      this property.
  Qualifier:
    Type: String
    Description: 'service version, can be versionId or aliasName'
  CheckError:
    Type: Boolean
    Description: >-
      Whether check error for function invocation result.
      If set true and function invocation result has error, the resource
      creation will be regard as failed.
      Default is false
    AllowedValues:
      - true
      - false
Resources:
```

```
Resources:
  FunctionInvoker:
    Type: 'ALIYUN::FC::FunctionInvoker'
    Properties:
      FunctionName:
        Ref: FunctionName
      ExecuteVersion:
        Ref: ExecuteVersion
      ServiceRegionId:
        Ref: ServiceRegionId
      ServiceName:
        Ref: ServiceName
      Async:
        Ref: Async
      Event:
        Ref: Event
      Qualifier:
        Ref: Qualifier
      CheckError:
        Ref: CheckError
Outputs:
  ResultType:
    Description: |-
      Result type:
      NoResult: Async invoke has no result.
      Success: Sync invoke succeeds.
      Failure: Sync invoke fails.
    Value:
      'Fn::GetAtt':
        - FunctionInvoker
        - ResultType
  Result:
    Description: >-
      Depends on result type:
      NoResult: Async invoke has no result.
      Success: The response of the function. The response should be utf-8
      encoded string, otherwise ROS will report an error. If the response is
      binary, encode it via base64 before it is returned.
      Failure: Error Message.
    Value:
      'Fn::GetAtt':
        - FunctionInvoker
        - Result
```

34.5. ALIYUN::FC::ProvisionConfig

ALIYUN::FC::ProvisionConfig is used to create a reserved instance.

Syntax

```
{
  "Type": "ALIYUN::FC::ProvisionConfig",
  "Properties": {
    "ServiceName": String,
    "Target": Integer,
    "FunctionName": String,
    "Qualifier": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
ServiceName	String	Yes	Not supported	Component	None
Target	Integer	Yes	Yes	Target number of Reserved Instances	None
FunctionName	String	Yes	Not supported	Function Name	None
Qualifier	String	Yes	Not supported	Service alias	None

Return value

Fn::GetAtt

- ServiceName: The service name.
- Resource: The description of the Resource.
- Target: The number of Target Reserved Instances.
- FunctionName: The name of the function.
- Qualifier: The alias of the service.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ProvisionConfig": {
      "Type": "ALIYUN::FC::ProvisionConfig",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "Target": {
          "Ref": "Target"
        },
        "Qualifier": {
          "Ref": "Qualifier"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        }
      }
    }
  },
  "Parameters": {
    "ServiceName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Service name",
      "MaxLength": 128
    },
    "Target": {
      "Type": "Number",
      "Description": "Number of provision"
    },
    "Qualifier": {
      "Type": "String",
      "Description": "Service's alias.\nExample : \"LATEST\""
    },
    "FunctionName": {
      "Type": "String",
      "Description": "Function name"
    }
  },
  "Outputs": {
    "ServiceName": {
      "Description": "The service name",
      "Value": {
        "Fn::GetAtt": [
          "ProvisionConfig",
          "ServiceName"
        ]
      }
    },
    "Resource": {
      "Description": "The resource",
      "Value": {
        "Fn::GetAtt": [
          "ProvisionConfig",
          "Resource"
        ]
      }
    },
```

```
    "Target": {
      "Description": "Number of provision",
      "Value": {
        "Fn::GetAtt": [
          "ProvisionConfig",
          "Target"
        ]
      }
    },
    "Qualifier": {
      "Description": "The service alias",
      "Value": {
        "Fn::GetAtt": [
          "ProvisionConfig",
          "Qualifier"
        ]
      }
    },
    "FunctionName": {
      "Description": "The function name",
      "Value": {
        "Fn::GetAtt": [
          "ProvisionConfig",
          "FunctionName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  ProvisionConfig:
    Type: 'ALIYUN::FC::ProvisionConfig'
    Properties:
      ServiceName:
        Ref: ServiceName
      Target:
        Ref: Target
      Qualifier:
        Ref: Qualifier
      FunctionName:
        Ref: FunctionName
Parameters:
  ServiceName:
    MinLength: 1
    Type: String
    Description: Service name
    MaxLength: 128
  Target:
    Type: Number
    Description: Number of provision
  Qualifier:
    Type: String
    Description: |-
      Service's alias.
      Example : "LATEST"
  FunctionName:
    Type: String
    Description: Function name
Outputs:
  ServiceName:
    Description: The service name
    Value:
      'Fn::GetAtt':
        -ProvisionConfig
        -ServiceName
  Resource:
    Description: The resource
    Value:
      'Fn::GetAtt':
        -ProvisionConfig
        -Resource
  Target:
    Description: Number of provision
    Value:
      'Fn::GetAtt':
        -ProvisionConfig
        -Target
  Qualifier:
    Description: The service alias
    Value:
      'Fn::GetAtt':
        -ProvisionConfig
        -Qualifier
  FunctionName:
    Description: The function name
    Value:
      'Fn::GetAtt':
        -ProvisionConfig
        -FunctionName
```

34.6. ALIYUN::FC::Service

ALIYUN::FC::Service is used to create a service. All functions of a service share the same settings such as service authorizations and log configurations. A single service can consist of multiple functions that share the service resources such as Logstores and service roles.

Services help you clearly organize your business logic and serve as the basic units of O&M management. A service can represent an application. Functions that are used in the same application can be organized into a single service. Services are independent of each other and cannot share resources.

Syntax

```
{
  "Type": "ALIYUN::FC::Service",
  "Properties": {
    "Description": String,
    "VpcConfig": Map,
    "ServiceName": String,
    "Role": String,
    "DeletionForce": Boolean,
    "Tags": List,
    "NasConfig": Map,
    "LogConfig": Map,
    "TracingConfig": Map,
    "InternetAccess": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the service.	None
VpcConfig	Map	No	Yes	The VPC configurations. This parameter allows functions to connect to the specified VPC.	For more information, see the VpcConfig properties section in this topic. To delete the VPC configurations when you update a stack, set the value to the following map: `{ "VpcId": "", "VSwitchIds": [], "SecurityGroupId": "" }`
ServiceName	String	Yes	No	The name of the service.	The name must be 1 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter or underscore (_).
Role	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the RAM role that is used to grant required permissions to Function Compute. The role is used in the following scenarios: • Send function execution logs to a specific Logstore. • Generate a token for a function to access other cloud resources when the function is executed.	None

Property	Type	Required	Editable	Description	Constraint
NasConfig	Map	No	Yes	The configurations of the Apsara File Storage NAS (NAS) file system, which enable a function to access the specified NAS file system.	For more information, see the NasConfig properties section in this topic. To delete the configurations of the NAS file system when you update a stack, set the value to the following map: `{ "MountPoints": [], "UserId": -1, "GroupId": -1 }`
LogConfig	Map	No	Yes	The logging configurations. This parameter specifies a Logstore to store function execution logs.	For more information, see the LogConfig properties section in this topic.
TracingConfig	Map	No	Yes	The configurations of Tracing Analysis. After Function Compute is integrated with Tracing Analysis, you can record the stay time of a request in Function Compute, view the cold start time for a function, and record the execution time of a function.	For more information, see the TracingConfig properties section in this topic.
InternetAccess	Boolean	No	Yes	Specifies whether to allow functions to access the Internet.	Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
DeletionForce	Boolean	No	Yes	Specifies whether to forcibly delete the service.	Default value: false. Valid values: • true • false This parameter takes effect only when the VpcConfig parameter is specified. • If the DeletionForce parameter is set to true, the service is deleted before the ENIs that Function Compute creates for the service are deleted. • If the DeletionForce parameter is left empty or set to false, the service is deleted after the ENIs that Function Compute creates for the service are deleted. If the service is created based on a vSwitch or security group that you have created in the current stack, you do not need to specify DeletionForce when you delete the service. After you delete the service, you must not invoke its functions within one hour. Otherwise, the ENIs and the entire stack fail to be deleted. If the vSwitch or security group is specified in the operation that is used to create the service, you can set DeletionForce to true. In this case, the ENIs and the entire stack are deleted even if you invoke functions of this service within one hour after you delete the service.
Tags	List	No	Yes	The tags of the service.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

LogConfig syntax

```
"LogConfig": {
  "Project": String,
  "Logstore": String,
  "EnableRequestMetrics": Boolean
}
```

LogConfig properties

Property	Type	Required	Editable	Description	Constraint
Project	String	No	Yes	The name of the project in LogHub.	None
Logstore	String	No	Yes	The name of the Logstore in LogHub.	None
EnableRequestMetrics	Boolean	No	Yes	Specifies whether to enable request monitoring.	Valid values: • true • false

VpcConfig syntax

```
"VpcConfig": {
  "SecurityGroupId": String,
  "VSwitchIds": List,
  "VpcId": String
}
```

VpcConfig properties

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	Yes	Yes	The ID of the security group to which the service belongs.	None
VSwitchIds	List	Yes	Yes	The list of vSwitch IDs.	Separate multiple vSwitch IDs with commas (,). Example: [VSwitchId1, VSwitchId2].
VpcId	String	Yes	Yes	The ID of the VPC.	None

NasConfig syntax

```
"NasConfig": {
  "MountPoints": List,
  "UserId": Integer,
  "GroupId": Integer
}
```

NasConfig properties

Property	Type	Required	Editable	Description	Constraint
MountPoints	List	Yes	Yes	The list of NAS mount points in the service.	For more information, see the MountPoints properties section in this topic.
UserId	Integer	Yes	Yes	The ID of the user.	Valid values: -1 to 65534.
GroupId	Integer	Yes	Yes	The ID of the group.	Valid values: -1 to 65534.

TracingConfig syntax

```
"TracingConfig": {
  "Type": String,
  "Params": Map
}
```

TracingConfig properties

Property	Type	Required	Editable	Description	Constraint
Type	String	No	Yes	The type of the Tracing Analysis system.	None
Params	Map	No	Yes	The parameters that are used in Tracing Analysis.	None

MountPoints syntax

```
"MountPoints": [
  {
    "ServerAddr": String,
    "MountDir": String
  }
]
```

MountPoints properties

Property	Type	Required	Editable	Description	Constraint
ServerAddr	String	Yes	Yes	The address of the NAS server.	None
MountDir	String	Yes	Yes	The on-premises mount directory.	None

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- ServiceId: the unique ID generated by the system for each service.
- ServiceName: the name of the service.
- Tags: tags of the service.
- Role: the RAM role.
- LogProject: the name of the log project.
- Logstore: the name of the Logstore.
- InternetAccess: indicates whether the function can access the Internet.
- VpcId: the ID of the VPC.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Role": {
      "Type": "String",
      "Description": "The role grants Function Compute the permission to access user's cloud resources, such as pushing logs to user's log store. The temporary STS token generated from this role can be retrieved from function context and used to access cloud resources. "
    },
    "InternetAccess": {
      "Type": "Boolean",
      "Description": "Set it to true to enable Internet access.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Description": {
      "Type": "String",
```

```
      "Description": "Service description"
    },
    "DeletionForce": {
      "Type": "Boolean",
      "Description": "Whether force delete the service without waiting for network interfaces to be cleaned up if VpcConfig is
specified. Default value is false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "TracingConfig": {
      "Type": "Json",
      "Description": "The Tracing Analysis configuration. After Function Compute integrates with Tracing Analysis, you can reco
rd the stay time of a request in Function Compute, view the cold start time for a function, and record the execution time of a
function."
    },
    "VpcConfig": {
      "Type": "Json",
      "Description": "VPC configuration. Function Compute uses the config to setup ENI in the specific VPC."
    },
    "ServiceName": {
      "Type": "String",
      "Description": "Service name",
      "MinLength": 1,
      "MaxLength": 128
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to service. Max support 20 tags to add during create service. Each tag with two properties
Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "NasConfig": {
      "Type": "Json",
      "Description": "NAS configuration. Function Compute uses a specified NAS configured on the service."
    },
    "LogConfig": {
      "Type": "Json",
      "Description": "Log configuration. Function Compute pushes function execution logs to the configured log store."
    }
  },
  "Resources": {
    "Service": {
      "Type": "ALIYUN::FC::Service",
      "Properties": {
        "Role": {
          "Ref": "Role"
        },
        "InternetAccess": {
          "Ref": "InternetAccess"
        },
        "Description": {
          "Ref": "Description"
        },
        "DeletionForce": {
          "Ref": "DeletionForce"
        },
        "TracingConfig": {
          "Ref": "TracingConfig"
        },
        "VpcConfig": {
          "Ref": "VpcConfig"
        },
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "NasConfig": {
```

```
          "Ref": "NasConfig"
        },
        "LogConfig": {
          "Ref": "LogConfig"
        }
      }
    }
  },
  "Outputs": {
    "Role": {
      "Description": "Role of service",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "Role"
        ]
      }
    },
    "InternetAccess": {
      "Description": "Whether enable Internet access",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "InternetAccess"
        ]
      }
    },
    "VpcId": {
      "Description": "VPC ID",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "VpcId"
        ]
      }
    },
    "ServiceName": {
      "Description": "The service name",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "ServiceName"
        ]
      }
    },
    "Logstore": {
      "Description": "Log store of service",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "Logstore"
        ]
      }
    },
    "Tags": {
      "Description": "Tags of service",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "Tags"
        ]
      }
    },
    "LogProject": {
      "Description": "Log project of service",
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "LogProject"
        ]
      }
    },
    "ServiceId": {
      "Description": "The service ID",
```

```
      "Value": {
        "Fn::GetAtt": [
          "Service",
          "ServiceId"
        ]
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DeletionForce:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: Whether force delete the service without waiting for network interfaces
      to be cleaned up if VpcConfig is specified. Default value is false.
    Type: Boolean
  Description:
    Description: Service description
    Type: String
  InternetAccess:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Set it to true to enable Internet access.
    Type: Boolean
  LogConfig:
    Description: Log configuration. Function Compute pushes function execution logs
      to the configured log store.
    Type: Json
  NasConfig:
    Description: NAS configuration. Function Compute uses a specified NAS configured
      on the service.
    Type: Json
  Role:
    Description: "The role grants Function Compute the permission to access user\u2019\
      s cloud resources, such as pushing logs to user\u2019s log store. The temporary\
      \ STS token generated from this role can be retrieved from function context\
      \ and used to access cloud resources. "
    Type: String
  ServiceName:
    Description: Service name
    MaxLength: 128
    MinLength: 1
    Type: String
  Tags:
    Description: Tags to attach to service. Max support 20 tags to add during create
      service. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  TracingConfig:
    Description: The Tracing Analysis configuration. After Function Compute integrates
      with Tracing Analysis, you can record the stay time of a request in Function
      Compute, view the cold start time for a function, and record the execution time
      of a function.
    Type: Json
  VpcConfig:
    Description: VPC configuration. Function Compute uses the config to setup ENI
      in the specific VPC.
    Type: Json
Resources:
  Service:
    Properties:
      DeletionForce:
        Ref: DeletionForce
```

```
      Description:
        Ref: Description
      InternetAccess:
        Ref: InternetAccess
      LogConfig:
        Ref: LogConfig
      NasConfig:
        Ref: NasConfig
      Role:
        Ref: Role
      ServiceName:
        Ref: ServiceName
      Tags:
        Ref: Tags
      TracingConfig:
        Ref: TracingConfig
      VpcConfig:
        Ref: VpcConfig
    Type: ALIYUN::FC::Service
Outputs:
  InternetAccess:
    Description: Whether enable Internet access
    Value:
      Fn::GetAtt:
      - Service
      - InternetAccess
  LogProject:
    Description: Log project of service
    Value:
      Fn::GetAtt:
      - Service
      - LogProject
  Logstore:
    Description: Log store of service
    Value:
      Fn::GetAtt:
      - Service
      - Logstore
  Role:
    Description: Role of service
    Value:
      Fn::GetAtt:
      - Service
      - Role
  ServiceId:
    Description: The service ID
    Value:
      Fn::GetAtt:
      - Service
      - ServiceId
  ServiceName:
    Description: The service name
    Value:
      Fn::GetAtt:
      - Service
      - ServiceName
  Tags:
    Description: Tags of service
    Value:
      Fn::GetAtt:
      - Service
      - Tags
  VpcId:
    Description: VPC ID
    Value:
      Fn::GetAtt:
      - Service
      - VpcId
```

For more examples, visit FunctionInvoker.json and FunctionInvoker.yml. In the examples, the ALIYUN::FC::Service, ALIYUN::FC::Function, ALIYUN::FC::FunctionInvoker, ALIYUN::FC::Trigger, ALIYUN::FC::Version, ALIYUN::FC::Alias, and ALIYUN::FC::ProvisionConfig resource types are involved.

34.7. ALIYUN::FC::Layer

ALIYUN::FC::Layer is used to publish layer versions.

For more information about layers and versions, see Manage layers.

Syntax

```
{
  "Type": "ALIYUN::FC::Layer",
  "Properties": {
    "CompatibleRuntime": List,
    "Description": String,
    "LayerName": String,
    "Code": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
CompatibleRuntime	List	Yes	No	The runtime environment supported by the layer.	Valid values: • nodejs12 • nodejs10 • nodejs8 • nodejs6 • python3 • python2.7
Description	String	No	No	The description of the layer.	None
LayerName	String	Yes	No	The name of the layer.	The name must be 1 to 64 characters in length.
Code	Map	Yes	No	The code ZIP package.	For more information, see Code syntax and Code properties.

Code syntax

```
"Code": {
  "ZipFile": String,
  "OssObjectName": String,
  "OssBucketName": String
}
```

Code properties

Property	Type	Required	Editable	Description	Constraint
ZipFile	String	No	No	The function code that is encoded in Base64.	The priority of ZipFile is higher than the priorities of OssBucketName and OssObjectName. Code uses the value of ZipFile first.
OssObjectName	String	No	No	The name of the Object Storage Service (OSS) object that stores the ZIP package of the function code.	Both OssBucketName and OssObjectName must be configured.
OssBucketName	String	No	No	The name of the OSS bucket that stores the ZIP package of the function code.	Both OssBucketName and OssObjectName must be configured.

Response parameters

Fn::GetAtt

- LayerName: the name of the layer.
- Version: the version of the layer.
- Arn: the Alibaba Cloud Resource Name (ARN) of the layer resource.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "CompatibleRuntime": {
      "Type": "Json",
      "Description": "The runtime environment supported by the layer. For example:nodejs12, nodejs10, nodejs8, nodejs6, python3
, and python2.7",
      "MinLength": 1,
      "Default": "[\n  \"python3\"\n]"
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the layer.",
      "Default": "test123"
    },
    "LayerName": {
      "Type": "String",
      "Description": "The name of layer",
      "AllowedPattern": "[a-zA-Z][_a-zA-Z0-9-]+",
      "MinLength": 1,
      "MaxLength": 64,
      "Default": "test123"
    },
    "Code": {
      "Type": "Json",
      "Description": "The code of layer.",
      "Default": "{\n  \"OssBucketName\": \"you_bucket_name\",\n  \"OssObjectName\": \"index.py\"\n}"
    }
  },
  "Resources": {
    "Layer": {
      "Type": "ALIYUN::FC::Layer",
      "Properties": {
        "CompatibleRuntime": {
          "Ref": "CompatibleRuntime"
        },
        "Description": {
          "Ref": "Description"
        },
        "LayerName": {
          "Ref": "LayerName"
        },
        "Code": {
          "Ref": "Code"
        }
      }
    }
  },
  "Outputs": {
    "LayerName": {
      "Description": "The name of layer",
      "Value": {
        "Fn::GetAtt": [
          "Layer",
          "LayerName"
        ]
      }
    },
    "Version": {
      "Description": "The version of the layer resource.",
      "Value": {
        "Fn::GetAtt": [
          "Layer",
          "Version"
```

```
        ]
      }
    },
    "Arn": {
      "Description": "The name of the layer resource.",
      "Value": {
        "Fn::GetAtt": [
          "Layer",
          "Arn"
        ]
      }
    }
  }
}
```

34.8. ALIYUN::FC::Trigger

ALIYUN::FC::Trigger is used to trigger the invocation of a function.

In an event-driven computing model, the source is the event producer, the function is the event processor, and the trigger manages different sources in a centralized manner. On the event source side, when an event that matches the rules defined by a trigger occurs, the event source invokes the corresponding function.

Syntax

```
{
  "Type": "ALIYUN::FC::Trigger",
  "Properties": {
    "TriggerConfig": Map,
    "InvocationRole": String,
    "FunctionName": String,
    "ServiceName": String,
    "TriggerName": String,
    "TriggerType": String,
    "Qualifier": String,
    "SourceArn": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ServiceName	String	Yes	No	The name of the Function Compute service.	The name must be 1 to 128 characters in length.
FunctionName	String	Yes	No	The name of the function for which you want to create a trigger.	None
TriggerName	String	Yes	No	The name of the trigger.	The name must be 1 to 128 characters in length and can contain digits, letters, hyphens (-), and underscores (_). It must start with a letter or an underscore (_).

Property	Type	Required	Editable	Description	Constraint
TriggerType	String	Yes	No	The type of the trigger.	Valid values: • oss • log • tablestore • timer • mns_topic • cdn_events • http **Note** You can create an HTTP trigger only when you create a function. When an HTTP trigger is configured for a function, you cannot create other types of triggers for the function.
TriggerConfig	Map	Yes	Yes	The configurations of the trigger.	The configurations vary based on the trigger type.

InvocationRole	String	No	Yes	The role that is used to grant an event source the permissions to invoke the function on behalf of users. Example: `"acs:ram::1234567890:role/fc-test"`.	This parameter is optional when TriggerType is set to timer or http. This parameter is required when TriggerType is set to a value other than timer and http.
					The following section lists the trusted entities and policies for role authorization for different types of triggers:
					• oss
					  ○ Trusted entity: oss.aliyuncs.com
					  ○ Policy: Action: fc:InvokeFunction
					• log
					  ○ Trusted entity: log.aliyuncs.com
					  ○ Policy: Action: log:PostLogStoreLogs
					• ots
					  ○ Trusted entity: 1604337383174****
					  ○ Policy: Action: fc:InvokeFunction, ots:BatchGet*, ots:Describe*, ots:Get*, and ots:List*
					• mns
					  ○ Trusted entity: mns.aliyuncs.com
					  ○ Policy: Action: dm:BatchSendMail, dm:SingleSendMail, and dm:Query
					• cdn
					  ○ Trusted entity: cdn.aliyuncs.com
					  ○ Policy: Action: fc:InvokeFunction

Property	Type	Required	Editable	Description	Constraint

SourceArn	String	No	No	The Alibaba Cloud Resource Name (ARN) of the event source.	This parameter is optional when TriggerType is set to timer or http. This parameter is required when TriggerType is set to a value other than timer and http.
					The following section lists the formats and examples of event source ARNs for different triggers:
					• oss
					  ○ Format: `acs:oss:<RegionId>:<TenantId>:<OssBucketName>`
					  ○ Example: `acs:oss:cn-hangzhou:12345****:test-trigger-bucket`
					• log
					  ○ Format: `acs:log:<RegionId>:<TenantId>:project/<The value of Project in the LogConfig property>`
					  ○ Example: `acs:log:cn-hangzhou:12345****:project/logtrigger`
					• ots
					  ○ Format: `acs:ots:<RegionId>:<TenantId>:instance/<OtsInstance>/table/<OtsTable>`
					  ○ Example: `acs:ots:cn-hangzhou:12345****:instance/otstrigger/table/tb`
					• mns
					  ○ Format: `acs:mns:<RegionId>:<TenantId>:/topics/<MnsTopic>`
					  ○ Example: `acs:mns:cn-hangzhou:12345****:/topics/triggertopic`
					• cdn
					  ○ Format: `acs:cdn:*:<TenantId>`
					  ○ Example: `acs:cdn:*:123456789`
					Note Set `TenantId` to the ID of the Alibaba Cloud account.

Qualifier	String	No	Yes	The version of the trigger.	Default value: LATEST.

oss-TriggerConfig syntax

```
"TriggerConfig": {
  "BucketName": String,
  "Events": List,
  "Filter": Map
}
```

oss-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
BucketName	String	Yes	No	The bucket name.	You must select an OSS bucket as the event source. Buckets within the same region are displayed in the Bucket drop-down list.
Events	String	Yes	Yes	The triggering event that indicates the operations that you performed on Alibaba Cloud resources.	Example: `oss:ObjectCreated:*` .
Filter	Map	No	Yes	The trigger rules that are used to avoid cyclic triggering.	The values of Prefix and Suffix must be custom strings. Examples: `"Filter": { "Key": { "Prefix": "prefix", "Suffix": "suffix" } }`

log-TriggerConfig syntax

```
"TriggerConfig": {
  "SourceConfig": Map,
  "LogConfig": Map,
  "JobConfig": Map,
  "FunctionParameter": Map,
  "Enable": Boolean
}
```

log-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
SourceConfig	Map	Yes	No	The Logstore configurations.	Example: `{"LogStore": "<SLS_LogStore>"}` .
LogConfig	Map	Yes	Yes	The configurations of the Log Service project and the Logstore for the trigger.	The Log Service project is required and cannot be updated. The Logstore for the trigger is optional and can be updated. It cannot be the same as the value of LogStore in the SourceConfig property. Example: `{"Project": "<SLS_Project>", "LogStore": "SLS_LogStore"}` .
JobConfig	Map	Yes	Yes	The task configurations. This parameter is used to set the maximum allowable number of retries and the trigger interval.	The trigger interval is measured in seconds. The maximum allowable number of retries ranges from 0 to 100. Example: `{"MaxRetryTime": 3, "TriggerInterval": 60}` .
FunctionParameter	Map	Yes	Yes	The function configurations that are used to pass parameters to the function.	If no parameters are specified, enter braces ({}).

Property	Type	Required	Editable	Description	Constraint
Enable	Boolean	Yes	Yes	Specifies whether to enable the trigger.	Valid values: • true • false

timer-TriggerConfig syntax

```
"TriggerConfig": {
  "Payload": String,
  "CronExpression": String,
  "Enabled": Boolean
}
```

timer-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
Payload	String	No	Yes	The trigger message.	None
CronExpression	String	Yes	Yes	The cron expression that is used to specify the trigger time.	The cron expression uses Coordinated Universal Time (UTC).
Enabled	Boolean	Yes	Yes	Specifies whether to enable the trigger.	Valid values: • true • false

tablestore-TriggerConfig syntax

```
"TriggerConfig",: {
  "InstanceName": String,
  "TableName": String
}
```

tablestore-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
InstanceName	String	Yes	No	The name of the Tablestore instance.	None
TableName	String	Yes	No	The name of the table.	None

mns_topic-TriggerConfig syntax

```
"TriggerConfig": {
  "NotifyStrategy": String,
  "NotifyContentFormat": String,
  "FilterTag": String
}
```

mns_topic-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
NotifyStrategy	String	Yes	No	The retry policy.	Valid values: • BACKOFF_RETRY • EXPONENTIAL_DECAY_RETRY For more information, see NotifyStrategy.

Property	Type	Required	Editable	Description	Constraint
NotifyContentFormat	String	Yes	No	The format of the event.	Valid values: • STREAM • JSON
FilterTag	String	No	No	The filtering tag.	None

cdn-TriggerConfig syntax

```
"TriggerConfig": {
  "EventName": String,
  "EventVersion": String,
  "Notes": String,
  "Filter": List
}
```

cdn-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
EventName	String	Yes	No	The name of the event.	Valid values: • CachedObjectsBlocked • CachedObjectsPushed • CachedObjectsRefreshed • LogFileCreated • CdnDomainStarted • CdnDomainStopped • CdnDomainAdded • CdnDomainDeleted
EventVersion	String	Yes	No	The version of the event.	None
Notes	String	Yes	Yes	The description of the trigger.	None
Filter	List	Yes	Yes	The list of the filters.	The key of each filter is `Domain`. You must specify at least one filter. Example: `[{"Domain": "example.com"}, {"Domain": "example.org"}, ...]`.

http-TriggerConfig syntax

Note You can create an HTTP trigger only when you create a function. When an HTTP trigger is configured for a function, you cannot create other types of triggers for the function.

```
"TriggerConfig": {
  "AuthType": String,
  "Methods": List
}
```

http-TriggerConfig properties

Property	Type	Required	Editable	Description	Constraint
AuthType	String	Yes	No	The authentication method.	Valid values: • anonymous • function

Property	Type	Required	Editable	Description	Constraint
Methods	List	Yes	No	The request method.	Valid values: • GET • POST • PUT • DELETE • HEAD • PATCH Example: `["GET"]` or `["POST", "PUT"]`.

Response parameters

Fn::GetAtt

- TriggerId: the unique ID generated by the system for each trigger.
- ServiceName: the name of the service to which the function belongs.
- FunctionName: the name of the function.
- TriggerName: the name of the trigger.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ServiceName": {
      "Type": "String"
    },
    "FunctionName": {
      "Type": "String"
    },
    "CdnDomain": {
      "Type": "Json"
    },
    "SourceConfigLogStore": {
      "Type": "String"
    },
    "LogConfig": {
      "Type": "Json",
      "Description": "for example: {\"Project\": \"testviper\", \"LogStore\": \"vipertest\"}"
    },
    "MnsTopic": {
      "Type": "String"
    },
    "OssBucketName": {
      "Type": "String"
    },
    "OtsInstance": {
      "Type": "String"
    },
    "OtsTable": {
      "Type": "String"
    },
    "OtsInvocationRoleArn": {
      "Type": "String"
    }
  },
  "Resources": {
    "Service": {
      "Type": "ALIYUN::FC::Service",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        }
      }
    },
    "Function": {
      "DependsOn": "Service",
      "Type": "ALIYUN::FC::Function",
```

```
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "Code": {
          "SourceCode": "def handler(event, context):\n\treturn 'Hello World!'"
        },
        "Handler": "index.handler",
        "Runtime": "python3",
        "FunctionName": {
          "Ref": "FunctionName"
        }
      }
    },
    "Role": {
      "Type": "ALIYUN::RAM::Role",
      "Properties": {
        "AssumeRolePolicyDocument": {
          "Version": 1,
          "Statement": [
            {
              "Action": "sts:AssumeRole",
              "Effect": "Allow",
              "Principal": {
                "Service": [
                  "cdn.aliyuncs.com",
                  "fc.aliyuncs.com",
                  "mns.aliyuncs.com",
                  "log.aliyuncs.com",
                  "oss.aliyuncs.com"
                ]
              }
            }
          ]
        },
        "Policies": [
          {
            "PolicyName": "FcTrigger",
            "PolicyDocument": {
              "Version": "1",
              "Statement": [
                {
                  "Effect": "Allow",
                  "Action": [
                    "fc:InvokeFunction",
                    "log:PostLogStoreLogs",
                    "dm:*",
                    "dm:BatchSendMail",
                    "dm:SingleSendMail",
                    "dm:Query*"
                  ],
                  "Resource": [
                    "*"
                  ]
                }
              ]
            }
          }
        ],
        "RoleName": "Trigger"
      }
    },
    "CdnTrigger": {
      "DependsOn": "Function",
      "Type": "ALIYUN::FC::Trigger",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "TriggerName": "cdn",
        "TriggerType": "cdn_events",
```

```
        "SourceArn": {
          "Fn::Sub": "acs:cdn:*:${ALIYUN::TenantId}"
        },
        "InvocationRole": {
          "Fn::GetAtt": [
            "Role",
            "Arn"
          ]
        },
        "TriggerConfig": {
          "EventName": "CachedObjectsBlocked",
          "EventVersion": "1.0.0",
          "Notes": "test",
          "Filter": {
            "Domain": {
              "Ref": "CdnDomain"
            }
          }
        }
      }
    },
    "LogTrigger": {
      "DependsOn": "Function",
      "Type": "ALIYUN::FC::Trigger",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "TriggerName": "log",
        "TriggerType": "log",
        "SourceArn": {
          "Fn::Join": [
            "",
            [
              {
                "Fn::Sub": "acs:log:${ALIYUN::Region}:${ALIYUN::TenantId}:project/"
              },
              {
                "Fn::Select": [
                  "Project",
                  {
                    "Ref": "LogConfig"
                  }
                ]
              }
            ]
          ]
        },
        "InvocationRole": {
          "Fn::GetAtt": [
            "Role",
            "Arn"
          ]
        },
        "TriggerConfig": {
          "SourceConfig": {
            "LogStore": {
              "Ref": "SourceConfigLogStore"
            }
          },
          "LogConfig": {
            "Ref": "LogConfig"
          },
          "JobConfig": {
            "MaxRetryTime": 3,
            "TriggerInterval": 60
          },
          "FunctionParameter": {},
          "Enable": false
        }
      }
```

```
    },
    "MnsTrigger": {
      "DependsOn": "Function",
      "Type": "ALIYUN::FC::Trigger",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "TriggerName": "mns",
        "TriggerType": "mns_topic",
        "SourceArn": {
          "Fn::Sub": "acs:mns:${ALIYUN::Region}:${ALIYUN::TenantId}:/topics/${MnsTopic}"
        },
        "InvocationRole": {
          "Fn::GetAtt": [
            "Role",
            "Arn"
          ]
        },
        "TriggerConfig": {
          "NotifyStrategy": "BACKOFF_RETRY",
          "NotifyContentFormat": "STREAM",
          "FilterTag": "test"
        }
      }
    },
    "OssTrigger": {
      "DependsOn": "Function",
      "Type": "ALIYUN::FC::Trigger",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "TriggerName": "oss",
        "TriggerType": "oss",
        "SourceArn": {
          "Fn::Sub": "acs:oss:${ALIYUN::Region}:${ALIYUN::TenantId}:${OssBucketName}"
        },
        "InvocationRole": {
          "Fn::GetAtt": [
            "Role",
            "Arn"
          ]
        },
        "TriggerConfig": {
          "BucketName": {
            "Ref": "OssBucketName"
          },
          "Events": [
            "oss:ObjectCreated:*"
          ],
          "Filter": {
            "Key": {
              "Prefix": "b",
              "Suffix": "a"
            }
          }
        }
      }
    },
    "OtsTrigger": {
      "DependsOn": "Function",
      "Type": "ALIYUN::FC::Trigger",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "FunctionName": {
```

```
          "Ref": "FunctionName"
        },
        "TriggerName": "ots",
        "TriggerType": "tablestore",
        "SourceArn": {
          "Fn::Sub": "acs:ots:${ALIYUN::Region}:${ALIYUN::TenantId}:instance/${OtsInstance}/table/${OtsTable}"
        },
        "InvocationRole": {
          "Ref": "OtsInvocationRoleArn"
        },
        "TriggerConfig": {
          "InstanceName": {
            "Ref": "OtsInstance"
          },
          "TableName": {
            "Ref": "OtsTable"
          }
        }
      }
    },
    "TimerTrigger": {
      "DependsOn": "Function",
      "Type": "ALIYUN::FC::Trigger",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "FunctionName": {
          "Ref": "FunctionName"
        },
        "TriggerName": "timer",
        "TriggerType": "timer",
        "TriggerConfig": {
          "CronExpression": "0 0/5 * * * *",
          "Enabled": true
        }
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ServiceName:
    Type: String
  FunctionName:
    Type: String
  CdnDomain:
    Type: Json
  SourceConfigLogStore:
    Type: String
  LogConfig:
    Type: Json
    Description: 'for example: {"Project": "testviper", "LogStore": "vipertest"}'
  MnsTopic:
    Type: String
  OssBucketName:
    Type: String
  OtsInstance:
    Type: String
  OtsTable:
    Type: String
  OtsInvocationRoleArn:
    Type: String
Resources:
  Service:
    Type: 'ALIYUN::FC::Service'
    Properties:
      ServiceName:
        Ref: ServiceName
  Function:
    DependsOn: Service
```

```
    Type: 'ALIYUN::FC::Function'
    Properties:
      ServiceName:
        Ref: ServiceName
      Code:
        SourceCode: "def handler(event, context):\n\treturn 'Hello World!'"
      Handler: index.handler
      Runtime: python3
      FunctionName:
        Ref: FunctionName
  Role:
    Type: 'ALIYUN::RAM::Role'
    Properties:
      AssumeRolePolicyDocument:
        Version: 1
        Statement:
          - Action: 'sts:AssumeRole'
            Effect: Allow
            Principal:
              Service:
                - cdn.aliyuncs.com
                - fc.aliyuncs.com
                - mns.aliyuncs.com
                - log.aliyuncs.com
                - oss.aliyuncs.com
      Policies:
        - PolicyName: FcTrigger
          PolicyDocument:
            Version: '1'
            Statement:
              - Effect: Allow
                Action:
                  - 'fc:InvokeFunction'
                  - 'log:PostLogStoreLogs'
                  - 'dm:*'
                  - 'dm:BatchSendMail'
                  - 'dm:SingleSendMail'
                  - 'dm:Query*'
                Resource:
                  - '*'
      RoleName: Trigger
  CdnTrigger:
    DependsOn: Function
    Type: 'ALIYUN::FC::Trigger'
    Properties:
      ServiceName:
        Ref: ServiceName
      FunctionName:
        Ref: FunctionName
      TriggerName: cdn
      TriggerType: cdn_events
      SourceArn:
        'Fn::Sub': 'acs:cdn:*:${ALIYUN::TenantId}'
      InvocationRole:
        'Fn::GetAtt':
          - Role
          - Arn
      TriggerConfig:
        EventName: CachedObjectsBlocked
        EventVersion: 1.0.0
        Notes: test
        Filter:
          Domain:
            Ref: CdnDomain
  LogTrigger:
    DependsOn: Function
    Type: 'ALIYUN::FC::Trigger'
    Properties:
      ServiceName:
        Ref: ServiceName
      FunctionName:
        Ref: FunctionName
      TriggerName: log
      TriggerType: log
```

```
      SourceArn:
        'Fn::Join':
          - ''
          - - 'Fn::Sub': 'acs:log:${ALIYUN::Region}:${ALIYUN::TenantId}:project/'
            - 'Fn::Select':
                - Project
                - Ref: LogConfig
      InvocationRole:
        'Fn::GetAtt':
          - Role
          - Arn
      TriggerConfig:
        SourceConfig:
          LogStore:
            Ref: SourceConfigLogStore
        LogConfig:
          Ref: LogConfig
        JobConfig:
          MaxRetryTime: 3
          TriggerInterval: 60
        FunctionParameter: {}
        Enable: false
  MnsTrigger:
    DependsOn: Function
    Type: 'ALIYUN::FC::Trigger'
    Properties:
      ServiceName:
        Ref: ServiceName
      FunctionName:
        Ref: FunctionName
      TriggerName: mns
      TriggerType: mns_topic
      SourceArn:
        'Fn::Sub': 'acs:mns:${ALIYUN::Region}:${ALIYUN::TenantId}:/topics/${MnsTopic}'
      InvocationRole:
        'Fn::GetAtt':
          - Role
          - Arn
      TriggerConfig:
        NotifyStrategy: BACKOFF_RETRY
        NotifyContentFormat: STREAM
        FilterTag: test
  OssTrigger:
    DependsOn: Function
    Type: 'ALIYUN::FC::Trigger'
    Properties:
      ServiceName:
        Ref: ServiceName
      FunctionName:
        Ref: FunctionName
      TriggerName: oss
      TriggerType: oss
      SourceArn:
        'Fn::Sub': 'acs:oss:${ALIYUN::Region}:${ALIYUN::TenantId}:${OssBucketName}'
      InvocationRole:
        'Fn::GetAtt':
          - Role
          - Arn
      TriggerConfig:
        BucketName:
          Ref: OssBucketName
        Events:
          - 'oss:ObjectCreated:*'
        Filter:
          Key:
            Prefix: b
            Suffix: a
  OtsTrigger:
    DependsOn: Function
    Type: 'ALIYUN::FC::Trigger'
    Properties:
      ServiceName:
        Ref: ServiceName
      FunctionName:
```

```
        Ref: FunctionName
      TriggerName: ots
      TriggerType: tablestore
      SourceArn:
        'Fn::Sub': >-
          acs:ots:${ALIYUN::Region}:${ALIYUN::TenantId}:instance/${OtsInstance}/table/${OtsTable}
      InvocationRole:
        Ref: OtsInvocationRoleArn
      TriggerConfig:
        InstanceName:
          Ref: OtsInstance
        TableName:
          Ref: OtsTable
  TimerTrigger:
    DependsOn: Function
    Type: 'ALIYUN::FC::Trigger'
    Properties:
      ServiceName:
        Ref: ServiceName
      FunctionName:
        Ref: FunctionName
      TriggerName: timer
      TriggerType: timer
      TriggerConfig:
        CronExpression: 0 0/5 * * * *
        Enabled: true
```

For more examples, visit FunctionInvoker.json and FunctionInvoker.yml. In the examples, the ALIYUN::FC::Service, ALIYUN::FC::Function, ALIYUN::FC::FunctionInvoker, ALIYUN::FC::Trigger, ALIYUN::FC::Version, ALIYUN::FC::Alias, and ALIYUN::FC::ProvisionConfig resource types are involved.

34.9. ALIYUN::FC::Version

ALIYUN::FC::Version is used to release a Version.

Syntax

```
{
  "Type": "ALIYUN::FC::Version",
  "Properties": {
    "ServiceName": String,
    "Description": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
ServiceName	String	Yes	Not supported	Service name	None
Description	String	No	Released	Version description	None

Return value

Fn::GetAtt

- Version ID: The version ID.
- ServiceName: The name of the function Compute Service.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Version": {
      "Type": "ALIYUN::FC::Version",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        },
        "Description": {
          "Ref": "Description"
        }
      }
    }
  },
  "Parameters": {
    "ServiceName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Service name",
      "MaxLength": 128
    },
    "Description": {
      "Type": "String",
      "Description": "Version description"
    }
  },
  "Outputs": {
    "VersionId": {
      "Description": "The version ID",
      "Value": {
        "Fn::GetAtt": [
          "Version",
          "VersionId"
        ]
      }
    },
    "ServiceName": {
      "Description": "The service name",
      "Value": {
        "Fn::GetAtt": [
          "Version",
          "ServiceName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Version:
    Type: 'ALIYUN::FC::Version'
    Properties:
      ServiceName:
        Ref: ServiceName
      Description:
        Ref: Description
Parameters:
  ServiceName:
    MinLength: 1
    Type: String
    Description: Service name
    MaxLength: 128
  Description:
    Type: String
    Description: Version description
Outputs:
  VersionId:
    Description: The version ID
    Value:
      'Fn::GetAtt':
        -Version
        -VersionId
  ServiceName:
    Description: The service name
    Value:
      'Fn::GetAtt':
        -Version
        -ServiceName
```

35.FNF

35.1. ALIYUN::FNF::Flow

ALIYUN::FNF::Flow is used to create a flow.

Syntax

```
{
  "Type": "ALIYUN::FNF::Flow",
  "Properties": {
    "Definition": String,
    "RoleArn": String,
    "Description": String,
    "RequestId": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Definition	String	Yes	Yes	The definition of the flow. Example: `version: v1beta1\ntype: flow\nsteps: \n - type: pass\n name: mypass` .	It must comply with the FDL syntax. For more information, see Overview.
RoleArn	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the specified RAM role that Function Flow (FnF) assumes when it executes the flow.	None
Description	String	No	Yes	The description of the flow.	None
RequestId	String	No	Yes	The ID of the request.	If this parameter is not specified, the system generates a random value for it.
Name	String	Yes	No	The name of the flow.	The name must be unique in an Alibaba Cloud account. The name must be 1 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter or underscore (_).

Response parameters

Fn::GetAtt

- CreatedTime: the time when the flow was created.
- LastModifiedTime: the time when the flow was last modified.

- Id: the unique ID of the flow.
- Name: the name of the flow.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Definition": {
      "Type": "String",
      "Description": "The definition of the created flow following the FDL syntax standard.",
      "Default": "version: v1beta1\ntype: flow\nsteps: \n  - type: pass\n    name: mypass"
    },
    "Description": {
      "Type": "String",
      "Description": "Create a description of the flow.",
      "Default": "Test FNF Flow"
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the flow created. This name is unique under the account.",
      "Default": "TestFlow"
    }
  },
  "Resources": {
    "Flow": {
      "Type": "ALIYUN::FNF::Flow",
      "Properties": {
        "Definition": {
          "Ref": "Definition"
        },
        "Description": {
          "Ref": "Description"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "CreatedTime": {
      "Description": "Flow creation time.",
      "Value": {
        "Fn::GetAtt": [
          "Flow",
          "CreatedTime"
        ]
      }
    },
    "LastModifiedTime": {
      "Description": "The most recently modified time of the flow.",
      "Value": {
        "Fn::GetAtt": [
          "Flow",
          "LastModifiedTime"
        ]
      }
    },
    "Id": {
      "Description": "The unique ID of the flow.",
      "Value": {
        "Fn::GetAtt": [
          "Flow",
          "Id"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Definition:
    Type: String
    Description: The definition of the created flow following the FDL syntax standard.
    Default: |-
      version: v1beta1
      type: flow
      steps:
        - type: pass
          name: mypass
  Description:
    Type: String
    Description: Create a description of the flow.
    Default: Test FNF Flow
  Name:
    Type: String
    Description: The name of the flow created. This name is unique under the account.
    Default: TestFlow
Resources:
  Flow:
    Type: 'ALIYUN::FNF::Flow'
    Properties:
      Definition:
        Ref: Definition
      Description:
        Ref: Description
      Name:
        Ref: Name
Outputs:
  CreatedTime:
    Description: Flow creation time.
    Value:
      'Fn::GetAtt':
        - Flow
        - CreatedTime
  LastModifiedTime:
    Description: The most recently modified time of the flow.
    Value:
      'Fn::GetAtt':
        - Flow
        - LastModifiedTime
  Id:
    Description: The unique ID of the flow.
    Value:
      'Fn::GetAtt':
        - Flow
        - Id
```

35.2. ALIYUN::FNF::Schedule

ALIYUN::FNF::Schedule is used to create a time-based schedule.

Syntax

```
{
  "Type": "ALIYUN::FNF::Schedule",
  "Properties": {
    "Description": String,
    "FlowName": String,
    "Enable": Boolean,
    "Payload": String,
    "CronExpression": String,
    "ScheduleName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the time-based schedule.	None
FlowName	String	Yes	No	The name of the flow that is bound to the time-based schedule.	None
Enable	Boolean	No	Yes	Specifies whether to enable the time-based schedule.	Valid values: • true • false
Payload	String	No	Yes	The trigger message of the time-based schedule.	The value of this parameter must be in the JSON format. Example: `"{\"key\": \"value\"}"`.
CronExpression	String	Yes	Yes	The cron expression of the time-based schedule.	None
ScheduleName	String	Yes	No	The name of the time-based schedule.	None

Response parameters

Fn::GetAtt

- FlowName: the name of the flow that is bound to the time-based schedule.
- ScheduleId: the ID of the time-based schedule.
- ScheduleName: the name of the time-based schedule.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of the schedule."
    },
    "FlowName": {
      "Type": "String",
      "Description": "Flow name."
    },
    "Enable": {
      "Type": "Boolean",
      "Description": "Whether enable schedule.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Payload": {
      "Type": "String",
      "Description": "Payload."
    },
    "CronExpression": {
      "Type": "String",
      "Description": "Cron expression."
    },
    "ScheduleName": {
      "Type": "String",
      "Description": "Schedule name."
    }
  },
```

```
  },
  "Resources": {
    "Schedule": {
      "Type": "ALIYUN::FNF::Schedule",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "FlowName": {
          "Ref": "FlowName"
        },
        "Enable": {
          "Ref": "Enable"
        },
        "Payload": {
          "Ref": "Payload"
        },
        "CronExpression": {
          "Ref": "CronExpression"
        },
        "ScheduleName": {
          "Ref": "ScheduleName"
        }
      }
    }
  },
  "Outputs": {
    "FlowName": {
      "Description": "Flow name.",
      "Value": {
        "Fn::GetAtt": [
          "Schedule",
          "FlowName"
        ]
      }
    },
    "ScheduleId": {
      "Description": "Schedule Id",
      "Value": {
        "Fn::GetAtt": [
          "Schedule",
          "ScheduleId"
        ]
      }
    },
    "ScheduleName": {
      "Description": "Schedule name.",
      "Value": {
        "Fn::GetAtt": [
          "Schedule",
          "ScheduleName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: Description of the schedule.
  FlowName:
    Type: String
    Description: Flow name.
  Enable:
    Type: Boolean
    Description: Whether enable schedule.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Payload:
    Type: String
    Description: Payload.
  CronExpression:
    Type: String
    Description: Cron expression.
  ScheduleName:
    Type: String
    Description: Schedule name.
Resources:
  Schedule:
    Type: 'ALIYUN::FNF::Schedule'
    Properties:
      Description:
        Ref: Description
      FlowName:
        Ref: FlowName
      Enable:
        Ref: Enable
      Payload:
        Ref: Payload
      CronExpression:
        Ref: CronExpression
      ScheduleName:
        Ref: ScheduleName
Outputs:
  FlowName:
    Description: Flow name.
    Value:
      'Fn::GetAtt':
        - Schedule
        - FlowName
  ScheduleId:
    Description: Schedule Id
    Value:
      'Fn::GetAtt':
        - Schedule
        - ScheduleId
  ScheduleName:
    Description: Schedule name.
    Value:
      'Fn::GetAtt':
        - Schedule
        - ScheduleName
```

36.FOAS

36.1. ALIYUN::FOAS::Cluster

ALIYUN::FOAS::Cluster is used to create a cluster for an order in exclusive mode.

Syntax

```
{
  "Type": "ALIYUN::FOAS::Cluster",
  "Properties": {
    "OrderId": String,
    "Description": String,
    "ClusterName": String,
    "OssBucket": String,
    "VSwitchId": String,
    "Order": Map
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
OrderId	String	No	No	The ID of the order.	You can only specify either Order or OrderId. We recommend that you use OrderId.
Description	String	Yes	No	The description of the cluster.	None.
ClusterName	String	Yes	No	The name of the cluster.	The name must be 3 to 64 characters in length, and can contain lowercase letters, digits, and underscores (_). It must start with a letter.
OssBucket	String	Yes	No	The name of the bucket in OSS.	None.
VSwitchId	String	Yes	Yes	The ID of the vSwitch.	None.
Order	Map	No	Yes	The details of the order.	The AliyunBSSFullAccess policy must be attached to the StreamDefaultRole role. The order cannot be canceled.

Order syntax

```
"Order": {
  "PayModel": String,
  "SlaveSpec": String,
  "MasterSpec": String,
  "SlaveNumber": Integer,
  "Period": Integer,
  "MasterNumber": Integer
}
```

Order properties

Name	Type	Required	Editable	Description	Validity
PayModel	String	No	No	The billing method. Default value: post.	Valid values: • pre: subscription. • post: pay-as-you-go.
SlaveSpec	String	Yes	No	The type of the Slave instance. Example: Ecs_8c32g.	None.
MasterSpec	String	Yes	Yes	The type of the Master instance. Example: Ecs_4c16g.	None.
SlaveNumber	Integer	No	Yes	The number of Slave instances.	Valid values: 2 to 1000. Default value: 2.
Period	Integer	No	No	The subscription duration. Unit: month.	Valid values: 1 to 12. Default value: 1.
MasterNumber	Integer	No	No	The number of Master instances.	Valid values: 1 and 3. Default value: 3.

Response parameters

Fn::GetAtt

- OrderId: the ID of the order.
- MasterInstanceInfos: the Master instance information.
- SecurityGroupId: the ID of the security group.
- ClusterId: the ID of the cluster.
- VSwitchIds: the ID of the vSwitch.
- State: the cluster status.
- EngineVersions: the engine version.
- SlaveInstanceInfos: the Slave instance information.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Cluster": {
      "Type": "ALIYUN::FOAS::Cluster",
      "Properties": {
        "OrderId": {
          "Ref": "OrderId"
        },
        "Description": {
          "Ref": "Description"
        },
        "ClusterName": {
          "Ref": "ClusterName"
        },
        "OssBucket": {
          "Ref": "OssBucket"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Order": {
          "Ref": "Order"
        }
      }
    }
  },
  "Parameters": {
    "OrderId": {
```

```
      "MinLength": 1,
      "Type": "String",
      "Description": "Order Id. Only one of property Order or OrderId can be specified.\nOrderId is suggested."
    },
    "Description": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Cluster description."
    },
    "ClusterName": {
      "AllowedPattern": "[a-z][a-z0-9_]{2,63}",
      "Type": "String",
      "Description": "Cluster name. It begins with a letter, and contains only lowercase English letters, numbers, underscores
(_), and is limited to 3-64 characters."
    },
    "OssBucket": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Bucket name in your OSS."
    },
    "VSwitchId": {
      "MinLength": 1,
      "Type": "String",
      "Description": "vSwitch ID."
    },
    "Order": {
      "Type": "Json",
      "Description": "Order detail. Only one of property Order or OrderId can be specified. Order is not suggested. Policy Aliy
unBSSFullAccess must be granted to StreamDefaultRole in RAM console. The order can not be cancelled."
    }
  },
  "Outputs": {
    "OrderId": {
      "Description": "Order ID.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "OrderId"
        ]
      }
    },
    "MasterInstanceInfos": {
      "Description": "Master instance infos.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "MasterInstanceInfos"
        ]
      }
    },
    "SecurityGroupId": {
      "Description": "Security group Id.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "SecurityGroupId"
        ]
      }
    },
    "ClusterId": {
      "Description": "Cluster ID.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "ClusterId"
        ]
      }
    },
    "VSwitchIds": {
      "Description": "VSwitch Ids.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "VSwitchIds"
```

```
        ]
      }
    },
    "State": {
      "Description": "Cluster status.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "State"
        ]
      }
    },
    "EngineVersions": {
      "Description": "Engine Versions.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "EngineVersions"
        ]
      }
    },
    "SlaveInstanceInfos": {
      "Description": "Slave instance infos.",
      "Value": {
        "Fn::GetAtt": [
          "Cluster",
          "SlaveInstanceInfos"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Cluster:
    Type: ALIYUN::FOAS::Cluster
    Properties:
      OrderId:
        Ref: OrderId
      Description:
        Ref: Description
      ClusterName:
        Ref: ClusterName
      OssBucket:
        Ref: OssBucket
      VSwitchId:
        Ref: VSwitchId
      Order:
        Ref: Order
Parameters:
  OrderId:
    MinLength: 1
    Type: String
    Description: |-
      Order Id. Only one of property Order or OrderId can be specified.
      OrderId is suggested.
  Description:
    MinLength: 1
    Type: String
    Description: Cluster description.
  ClusterName:
    AllowedPattern: "[a-z][a-z0-9_]{2,63}"
    Type: String
    Description: Cluster name. It begins with a letter, and contains only lowercase
      English letters, numbers, underscores (_), and is limited to 3-64 characters.
  OssBucket:
    MinLength: 1
    Type: String
    Description: Bucket name in your OSS.
  VSwitchId:
    MinLength: 1
```

```
    Type: String
    Description: vSwitch ID.
  Order:
    Type: Json
    Description: Order detail. Only one of property Order or OrderId can be specified.
      Order is not suggested. Policy AliyunBSSFullAccess must be granted to StreamDefaultRole
      in RAM console.nThe order can not be cancelled.
Outputs:
  OrderId:
    Description: Order ID.
    Value:
      Fn::GetAtt:
      - Cluster
      - OrderId
  MasterInstanceInfos:
    Description: Master instance infos.
    Value:
      Fn::GetAtt:
      - Cluster
      - MasterInstanceInfos
  SecurityGroupId:
    Description: Security group Id.
    Value:
      Fn::GetAtt:
      - Cluster
      - SecurityGroupId
  ClusterId:
    Description: Cluster ID.
    Value:
      Fn::GetAtt:
      - Cluster
      - ClusterId
  VSwitchIds:
    Description: vSwitch Ids.
    Value:
      Fn::GetAtt:
      - Cluster
      - VSwitchIds
  State:
    Description: Cluster status.
    Value:
      Fn::GetAtt:
      - Cluster
      - State
  EngineVersions:
    Description: Engine Versions.
    Value:
      Fn::GetAtt:
      - Cluster
      - EngineVersions
  SlaveInstanceInfos:
    Description: Slave instance infos.
    Value:
      Fn::GetAtt:
      - Cluster
      - SlaveInstanceInfos
```

36.2. ALIYUN::FOAS::Project

ALIYUN::FOAS::Project is used to create a project in a Realtime Compute cluster.

Syntax

```
{
  "Type": "ALIYUN::FOAS::Project",
  "Properties": {
    "OrderId": String,
    "DeployType": String,
    "Description": String,
    "ManagerIds": String,
    "ClusterId": String,
    "Name": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
OrderId	String	No	No	The ID of the shared mode instance.	This parameter is required only when users create projects in the shared mode clusters.
DeployType	String	Yes	No	The type of the cluster.	Valid values: • cell: exclusive mode clusters. • public: shared mode clusters.
Description	String	No	No	The description of the project.	None.
ManagerIds	String	Yes	No	The account IDs of administrators. Separate multiple account IDs with commas (,).	None.
ClusterId	String	No	No	The ID of the cluster.	None.
Name	String	Yes	No	The name of the project.	The name must be 3 to 64 characters in length, and can contain lowercase letters, digits, and underscores (_). It must start with a letter.

Response parameters

Fn::GetAtt

State: the project status.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Project": {
      "Type": "ALIYUN::FOAS::Project",
      "Properties": {
        "OrderId": {
          "Ref": "OrderId"
        },
        "DeployType": {
          "Ref": "DeployType"
        },
        "Description": {
          "Ref": "Description"
        },
        "ManagerIds": {
```

```
          "Ref": "ManagerIds"
        },
        "ClusterId": {
          "Ref": "ClusterId"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Parameters": {
    "OrderId": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Order Id of Shared cluster."
    },
    "DeployType": {
      "Type": "String",
      "Description": "Cluster type: Exclusive cluster: cell. Shared cluster: public",
      "AllowedValues": [
        "cell",
        "public"
      ]
    },
    "Description": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Project description."
    },
    "ManagerIds": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Comma delimited account Id list of managers."
    },
    "ClusterId": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Cluster ID."
    },
    "Name": {
      "AllowedPattern": "[a-z][a-z0-9_]{2,63}",
      "Type": "String",
      "Description": "Project name. It begins with a letter, and contains only lowercase English letters, numbers, underscores
(_), and is limited to 3-64 characters."
    }
  },
  "Outputs": {
    "State": {
      "Description": "Project state.",
      "Value": {
        "Fn::GetAtt": [
          "Project",
          "State"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Project:
    Type: ALIYUN::FOAS::Project
    Properties:
      OrderId:
        Ref: OrderId
      DeployType:
        Ref: DeployType
      Description:
        Ref: Description
      ManagerIds:
        Ref: ManagerIds
      ClusterId:
        Ref: ClusterId
      Name:
        Ref: Name
Parameters:
  OrderId:
    MinLength: 1
    Type: String
    Description: Order Id of Shared cluster.
  DeployType:
    Type: String
    Description: 'Cluster type: Exclusive cluster: cell. Shared cluster: public'
    AllowedValues:
    - cell
    - public
  Description:
    MinLength: 1
    Type: String
    Description: Project description.
  ManagerIds:
    MinLength: 1
    Type: String
    Description: Comma delimited account Id list of managers.
  ClusterId:
    MinLength: 1
    Type: String
    Description: Cluster ID.
  Name:
    AllowedPattern: "[a-z][a-z0-9_]{2,63}"
    Type: String
    Description: Project name. It begins with a letter, and contains only lowercase
      English letters, numbers, underscores (_), and is limited to 3-64 characters.
Outputs:
  State:
    Description: Project state.
    Value:
      Fn::GetAtt:
      - Project
      - State
```

37.GA

37.1. ALIYUN::GA::Accelerator

ALIYUN::GA::Accelerator is used to create a Global Accelerator (GA) instance.

Syntax

```
{
  "Type": "ALIYUN::GA::Accelerator",
  "Properties": {
    "AcceleratorName": String,
    "AutoUseCoupon": String,
    "PricingCycle": String,
    "Duration": String,
    "AutoPay": String,
    "Spec": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AcceleratorName	String	No	No	The name of the GA instance.	None
AutoUseCoupon	String	No	No	Specifies whether to automatically use a coupon.	Valid values: • True • False
PricingCycle	String	Yes	No	The unit of the billing cycle.	Valid values: • Month • Year
Duration	String	Yes	No	The subscription duration.	Valid values: • Valid values when PricingCycle is set to Month: 1 to 9. • Valid values when PricingCycle is set to Year: 1 to 3.
AutoPay	String	No	No	Specifies whether to enable auto-renewal.	Valid values: • True • False
Spec	String	Yes	Yes	The instance type.	Valid values: • 1: Small I (the specification unit) • 2: Small II • 3: Small III • 5: Medium I • 8: Medium II • 10: Medium III

Response parameters

Fn::GetAtt

- AcceleratorName: the name of the GA instance.
- AutoUseCoupon: indicates whether a coupon is used.
- PricingCycle: the unit of the billing cycle.
- PaymentType: the billing method.
- Duration: the subscription duration.

- AutoPay: indicates whether auto-renewal is enabled.
- OrderId: the ID of the order.
- Spec: the instance type.
- AcceleratorId: the ID of the GA instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AcceleratorName": {
      "Type": "String",
      "Description": "The Name of the GA instance"
    },
    "AutoUseCoupon": {
      "Type": "String",
      "Description": "The AutoUseCoupon of the GA instance."
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "The PricingCycle of the GA instance."
    },
    "Duration": {
      "Type": "String",
      "Description": "The Duration of the GA instance"
    },
    "AutoPay": {
      "Type": "String",
      "Description": "The AutoPay of the GA instance."
    },
    "Spec": {
      "Type": "String",
      "Description": "The instance type of the GA instance"
    }
  },
  "Resources": {
    "GaAccelerator": {
      "Type": "ALIYUN::GA::Accelerator",
      "Properties": {
        "AcceleratorName": {
          "Ref": "AcceleratorName"
        },
        "AutoUseCoupon": {
          "Ref": "AutoUseCoupon"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "Spec": {
          "Ref": "Spec"
        }
      }
    }
  },
  "Outputs": {
    "AcceleratorName": {
      "Description": "The Name of the GA instance",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "AcceleratorName"
        ]
      }
    },
    "AutoUseCoupon": {
      "Description": "The AutoUseCoupon of the GA instance."
```

```
      "Description": "The AutoUseCoupon of the GA instance.",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "AutoUseCoupon"
        ]
      }
    },
    "PricingCycle": {
      "Description": "The PricingCycle of the GA instance.",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "PricingCycle"
        ]
      }
    },
    "PaymentType": {
      "Description": "The Payment Typethe GA instance",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "PaymentType"
        ]
      }
    },
    "Duration": {
      "Description": "The Duration of the GA instance",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "Duration"
        ]
      }
    },
    "AutoPay": {
      "Description": "The AutoPay of the GA instance.",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "AutoPay"
        ]
      }
    },
    "OrderId": {
      "Description": "The OrderId of the GA instance",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "OrderId"
        ]
      }
    },
    "Spec": {
      "Description": "The instance type of the GA instance",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "Spec"
        ]
      }
    },
    "AcceleratorId": {
      "Description": "The ID of the GA instance to query.",
      "Value": {
        "Fn::GetAtt": [
          "GaAccelerator",
          "AcceleratorId"
        ]
      }
    }
  }
}
```

`YAML` format

```yaml
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AcceleratorName:
    Type: String
    Description: The Name of the GA instance
  AutoUseCoupon:
    Type: String
    Description: The AutoUseCoupon of the GA instance.
  PricingCycle:
    Type: String
    Description: The PricingCycle of the GA instance.
  Duration:
    Type: String
    Description: The Duration of the GA instance
  AutoPay:
    Type: String
    Description: The AutoPay of the GA instance.
  Spec:
    Type: String
    Description: The instance type of the GA instance
Resources:
  GaAccelerator:
    Type: 'ALIYUN::GA::Accelerator'
    Properties:
      AcceleratorName:
        Ref: AcceleratorName
      AutoUseCoupon:
        Ref: AutoUseCoupon
      PricingCycle:
        Ref: PricingCycle
      Duration:
        Ref: Duration
      AutoPay:
        Ref: AutoPay
      Spec:
        Ref: Spec
Outputs:
  AcceleratorName:
    Description: The Name of the GA instance
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - AcceleratorName
  AutoUseCoupon:
    Description: The AutoUseCoupon of the GA instance.
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - AutoUseCoupon
  PricingCycle:
    Description: The PricingCycle of the GA instance.
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - PricingCycle
  PaymentType:
    Description: The Payment Typethe GA instance
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - PaymentType
  Duration:
    Description: The Duration of the GA instance
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - Duration
  AutoPay:
    Description: The AutoPay of the GA instance.
    Value:
      'Fn::GetAtt':
        - GaAccelerator
```

```
        - AutoPay
  OrderId:
    Description: The OrderId of the GA instance
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - OrderId
  Spec:
    Description: The instance type of the GA instance
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - Spec
  AcceleratorId:
    Description: The ID of the GA instance to query.
    Value:
      'Fn::GetAtt':
        - GaAccelerator
        - AcceleratorId
```

37.2. ALIYUN::GA::BandwidthPackage

ALIYUN::GA::BandwidthPackage is used to create a bandwidth plan.

Syntax

```
{
  "Type": "ALIYUN::GA::BandwidthPackage",
  "Properties": {
    "BandwidthType": String,
    "CbnGeographicRegionIdB": String,
    "Type": String,
    "CbnGeographicRegionIdA": String,
    "AutoUseCoupon": String,
    "PricingCycle": String,
    "ChargeType": String,
    "Bandwidth": Integer,
    "Ratio": String,
    "Duration": String,
    "AutoPay": String,
    "BillingType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
BandwidthType	String	No	Yes	The bandwidth type.	Valid values: • Basic: basic acceleration bandwidth • Enhanced: enhanced acceleration bandwidth • Advanced: premium acceleration bandwidth
CbnGeographicRegionIdB	String	No	No	Area B defined in the cross-border bandwidth plan.	None

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The type of the bandwidth plan.	Valid values: • Basic: basic bandwidth plan • CrossDomain: cross-border bandwidth plan
CbnGeographicRegionIdA	String	No	No	Area A defined in the cross-border bandwidth plan.	None
AutoUseCoupon	String	No	Yes	Specifies whether to use coupons.	Valid values: • True • False
PricingCycle	String	No	No	The unit of the subscription period.	Valid values: • Month • Year
ChargeType	String	No	No	The billing method of the bandwidth plan.	Set the value to PREPAY.
Bandwidth	Integer	Yes	Yes	The bandwidth provided by the bandwidth plan.	Valid values: 2 to 2000 Unit: MB
Ratio	String	No	No	The minimum bandwidth guaranteed in percentile.	None
Duration	String	No	No	The subscription period.	• Valid values when the PricingCycle parameter is set to Month: 1 to 9 • Valid values when the PricingCycle parameter is set to Year: 1 to 3
AutoPay	String	No	Yes	Specifies whether to enable automatic payment.	Valid values: • True • False
BillingType	String	No	No	The billing method for network usage.	None

Response parameters

Fn::GetAtt

- BandwidthPackageName: the name of the bandwidth plan.
- CbnGeographicRegionIdA: Area A defined in the cross-border bandwidth plan.
- CbnGeographicRegionIdB: Area B defined in the cross-border bandwidth plan.
- AutoPay: indicates whether automatic payment is enabled.
- BandwidthType: the bandwidth type.
- Type: the type of the bandwidth plan.
- AutoUseCoupon: indicates whether coupons are used.
- ChargeType: the billing method of the bandwidth plan.
- Bandwidth: the bandwidth provided by the bandwidth plan.
- BandwidthPackageId: the ID of the bandwidth plan.
- Ratio: the minimum bandwidth guaranteed in percentile.
- BillingType: the billing method for network usage.

Examples

JSON format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "BandwidthType": {
      "Type": "String",
      "Description": "the bandwidth BandwidthType of the bandwidth"
    },
    "CbnGeographicRegionIdB": {
      "Type": "String",
      "Description": "The CbnGeographicRegionIdB of the bandwidth"
    },
    "Type": {
      "Type": "String",
      "Description": "The type of the bandwidth plan"
    },
    "CbnGeographicRegionIdA": {
      "Type": "String",
      "Description": "The CbnGeographicRegionIdA  of the bandwidth"
    },
    "AutoUseCoupon": {
      "Type": "String",
      "Description": "The AutoUseCoupon  of the bandwidth"
    },
    "PricingCycle": {
      "Type": "String",
      "Description": ""
    },
    "ChargeType": {
      "Type": "String",
      "Description": "The ChargeType of the bandwidth"
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "The bandwidth provided by the bandwidth plan."
    },
    "Ratio": {
      "Type": "String",
      "Description": "The Ratio of the bandwidth"
    },
    "Duration": {
      "Type": "String",
      "Description": ""
    },
    "AutoPay": {
      "Type": "String",
      "Description": "The AutoPay of the bandwidth"
    },
    "BillingType": {
      "Type": "String",
      "Description": "The BillingType of the bandwidth"
    }
  },
  "Resources": {
    "GaBandwidthPackage": {
      "Type": "ALIYUN::GA::BandwidthPackage",
      "Properties": {
        "BandwidthType": {
          "Ref": "BandwidthType"
        },
        "CbnGeographicRegionIdB": {
          "Ref": "CbnGeographicRegionIdB"
        },
        "Type": {
          "Ref": "Type"
        },
        "CbnGeographicRegionIdA": {
          "Ref": "CbnGeographicRegionIdA"
        },
        "AutoUseCoupon": {
          "Ref": "AutoUseCoupon"
```

```
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "Ratio": {
          "Ref": "Ratio"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "BillingType": {
          "Ref": "BillingType"
        }
      }
    }
  },
  "Outputs": {
    "BandwidthPackageName": {
      "Description": "The Resource name of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "BandwidthPackageName"
        ]
      }
    },
    "CbnGeographicRegionIdB": {
      "Description": "The CbnGeographicRegionIdB of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "CbnGeographicRegionIdB"
        ]
      }
    },
    "CbnGeographicRegionIdA": {
      "Description": "The CbnGeographicRegionIdA  of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "CbnGeographicRegionIdA"
        ]
      }
    },
    "AutoPay": {
      "Description": "The AutoPay of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "AutoPay"
        ]
      }
    },
    "BandwidthType": {
      "Description": "the bandwidth BandwidthType of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "BandwidthType"
        ]
      }
    },
    "Type": {
      "Description": "The type of the bandwidth plan",
      "Value": {
        "Fn::GetAtt": [
```

```
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "Type"
        ]
      }
    },
    "AutoUseCoupon": {
      "Description": "The AutoUseCoupon  of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "AutoUseCoupon"
        ]
      }
    },
    "ChargeType": {
      "Description": "The ChargeType of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "ChargeType"
        ]
      }
    },
    "Bandwidth": {
      "Description": "The bandwidth provided by the bandwidth plan.",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "Bandwidth"
        ]
      }
    },
    "PaymentType": {
      "Description": "The Payment Type of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "PaymentType"
        ]
      }
    },
    "BandwidthPackageId": {
      "Description": "The Resource ID of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "BandwidthPackageId"
        ]
      }
    },
    "Ratio": {
      "Description": "The Ratio of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "Ratio"
        ]
      }
    },
    "BillingType": {
      "Description": "The BillingType of the bandwidth",
      "Value": {
        "Fn::GetAtt": [
          "GaBandwidthPackage",
          "BillingType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  BandwidthType:
    Type: String
    Description: the bandwidth BandwidthType of the bandwidth
  CbnGeographicRegionIdB:
    Type: String
    Description: The CbnGeographicRegionIdB of the bandwidth
  Type:
    Type: String
    Description: The type of the bandwidth plan
  CbnGeographicRegionIdA:
    Type: String
    Description: The CbnGeographicRegionIdA  of the bandwidth
  AutoUseCoupon:
    Type: String
    Description: The AutoUseCoupon  of the bandwidth
  PricingCycle:
    Type: String
    Description: ''
  ChargeType:
    Type: String
    Description: The ChargeType of the bandwidth
  Bandwidth:
    Type: Number
    Description: The bandwidth provided by the bandwidth plan.
  Ratio:
    Type: String
    Description: The Ratio of the bandwidth
  Duration:
    Type: String
    Description: ''
  AutoPay:
    Type: String
    Description: The AutoPay of the bandwidth
  BillingType:
    Type: String
    Description: The BillingType of the bandwidth
Resources:
  GaBandwidthPackage:
    Type: 'ALIYUN::GA::BandwidthPackage'
    Properties:
      BandwidthType:
        Ref: BandwidthType
      CbnGeographicRegionIdB:
        Ref: CbnGeographicRegionIdB
      Type:
        Ref: Type
      CbnGeographicRegionIdA:
        Ref: CbnGeographicRegionIdA
      AutoUseCoupon:
        Ref: AutoUseCoupon
      PricingCycle:
        Ref: PricingCycle
      ChargeType:
        Ref: ChargeType
      Bandwidth:
        Ref: Bandwidth
      Ratio:
        Ref: Ratio
      Duration:
        Ref: Duration
      AutoPay:
        Ref: AutoPay
      BillingType:
        Ref: BillingType
Outputs:
  BandwidthPackageName:
    Description: The Resource name of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - BandwidthPackageName
  CbnGeographicRegionIdB:
```

```
    Description: The CbnGeographicRegionIdB of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - CbnGeographicRegionIdB
  CbnGeographicRegionIdA:
    Description: The CbnGeographicRegionIdA  of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - CbnGeographicRegionIdA
  AutoPay:
    Description: The AutoPay of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - AutoPay
  BandwidthType:
    Description: the bandwidth BandwidthType of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - BandwidthType
  Type:
    Description: The type of the bandwidth plan
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - Type
  AutoUseCoupon:
    Description: The AutoUseCoupon  of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - AutoUseCoupon
  ChargeType:
    Description: The ChargeType of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - ChargeType
  Bandwidth:
    Description: The bandwidth provided by the bandwidth plan.
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - Bandwidth
  PaymentType:
    Description: The Payment Type of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - PaymentType
  BandwidthPackageId:
    Description: The Resource ID of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - BandwidthPackageId
  Ratio:
    Description: The Ratio of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - Ratio
  BillingType:
    Description: The BillingType of the bandwidth
    Value:
      'Fn::GetAtt':
        - GaBandwidthPackage
        - BillingType
```

37.3. ALIYUN::GA::BandwidthPackageAcceleratorAddition

ALIYUN::GA::BandwidthPackageAcceleratorAddition is used to bind a bandwidth plan to a global acceleration instance.

Syntax

```
{
  "Type": "ALIYUN::GA::BandwidthPackageAcceleratorAddition",
  "Properties": {
    "BandwidthPackageId": String,
    "AcceleratorId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
BandwidthPackageId	String	Yes	No	The ID of the bandwidth plan that has been associated with the Global Acceleration instance.	None
AcceleratorId	String	Yes	No	The ID of the Global Acceleration instance with which you want to associate the bandwidth plan.	None

Response parameters

Fn::GetAtt

- BandwidthPackageId: the ID of the bandwidth plan bound to the global acceleration instance.
- AcceleratorId: the ID of the global acceleration instance to bind to the bandwidth plan.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "BandwidthPackageId": {
      "Type": "String",
      "Description": "The ID of the bandwidth package to associate."
    },
    "AcceleratorId": {
      "Type": "String",
      "Description": "The ID of the Global Accelerator instance with which you want to associate the bandwidth\nplan."
    }
  },
  "Resources": {
    "BandwidthPackageAcceleratorAddition": {
      "Type": "ALIYUN::GA::BandwidthPackageAcceleratorAddition",
      "Properties": {
        "BandwidthPackageId": {
          "Ref": "BandwidthPackageId"
        },
        "AcceleratorId": {
          "Ref": "AcceleratorId"
        }
      }
    }
  },
  "Outputs": {
    "BandwidthPackageId": {
      "Description": "The ID of the bandwidth package which is associated",
      "Value": {
        "Fn::GetAtt": [
          "BandwidthPackageAcceleratorAddition",
          "BandwidthPackageId"
        ]
      }
    },
    "AcceleratorId": {
      "Description": "The ID of the Global Accelerator instance",
      "Value": {
        "Fn::GetAtt": [
          "BandwidthPackageAcceleratorAddition",
          "AcceleratorId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  BandwidthPackageId:
    Type: String
    Description: The ID of the bandwidth package to associate.
  AcceleratorId:
    Type: String
    Description: >-
      The ID of the Global Accelerator instance with which you want to associate
      the bandwidth
      plan.
Resources:
  BandwidthPackageAcceleratorAddition:
    Type: 'ALIYUN::GA::BandwidthPackageAcceleratorAddition'
    Properties:
      BandwidthPackageId:
        Ref: BandwidthPackageId
      AcceleratorId:
        Ref: AcceleratorId
Outputs:
  BandwidthPackageId:
    Description: The ID of the bandwidth package which is associated
    Value:
      'Fn::GetAtt':
        -BandwidthPackageAcceleratorAddition
        -BandwidthPackageId
  AcceleratorId:
    Description: The ID of the Global Accelerator instance
    Value:
      'Fn::GetAtt':
        -BandwidthPackageAcceleratorAddition
        -AcceleratorId
```

37.4. ALIYUN::GA::EndpointGroup

ALIYUN::GA::EndpointGroup is used to create an endpoint group.

Syntax

```
{
  "Type": "ALIYUN::GA::EndpointGroup",
  "Properties": {
    "HealthCheckIntervalSeconds": Integer,
    "EndpointGroupRegion": String,
    "TrafficPercentage": Integer,
    "Description": String,
    "HealthCheckPath": String,
    "HealthCheckProtocol": String,
    "ThresholdCount": Integer,
    "HealthCheckPort": Integer,
    "AcceleratorId": String,
    "EndpointConfigurations": List,
    "Name": String,
    "ListenerId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
HealthCheckIntervalSeconds	String	No	Yes	The interval between two consecutive health checks.	Unit: seconds.
EndpointGroupRegion	String	Yes	No	The region ID of the endpoint group.	None

Property	Type	Required	Editable	Description	Constraint
TrafficPercentage	String	No	Yes	The weight of the endpoint group when the corresponding listener is associated with multiple endpoint groups.	None
Description	String	No	Yes	The description of the endpoint group.	None
HealthCheckPath	String	No	Yes	The path set as the destination on the targets for health checks.	None
HealthCheckProtocol	String	No	Yes	The protocol that is used to connect with the targets for health checks.	Valid values: • tcp • http • https
ThresholdCount	String	No	Yes	The number of consecutive failed heath checks that must occur before declaring an endpoint unhealthy.	None
HealthCheckPort	String	No	Yes	The port used for health check.	None
AcceleratorId	String	Yes	No	The ID of the GA instance.	None
EndpointConfigurations	List	Yes	Yes	Endpoint.	A maximum of four endpoints can be set. For more information, see EndpointConfigurations properties.
Name	String	No	Yes	The name of the endpoint group.	None
ListenerId	String	Yes	No	The ID of the listener.	None

EndpointConfigurations syntax

```
"EndpointConfigurations": [
  {
    "Type": String,
    "Endpoint": String,
    "Weight": Integer
  }
]
```

EndpointConfigurations properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	Yes	The type of the endpoint. Valid values:	Valid values: • Domain: indicates the custom Domain name. • Ip: Enter the IP address.

Property	Type	Required	Editable	Description	Constraint
Endpoint	String	Yes	Yes	The IP address or domain name of endpoint N in the endpoint group.	None
Weight	Integer	Yes	Yes	The weight of endpoint N in the endpoint group.	None

Response parameters

Fn::GetAtt

EndpointGroupId: the ID of the endpoint group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "HealthCheckIntervalSeconds": {
      "Type": "Number",
      "Description": "The interval between two consecutive health checks. Unit: seconds."
    },
    "EndpointGroupRegion": {
      "Type": "String",
      "Description": "The region ID of the endpoint group."
    },
    "TrafficPercentage": {
      "Type": "Number",
      "Description": "The weight of the endpoint group when the corresponding listener is associated with\nmultiple endpoint gr
oups."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the endpoint group."
    },
    "HealthCheckPath": {
      "Type": "String",
      "Description": "The path set as the destination on the targets for health checks."
    },
    "HealthCheckProtocol": {
      "Type": "String",
      "Description": "The protocol that is used to connect with the targets for health checks.\ntcp: TCP protocol\nhttp: HTTP p
rotocol\nhttps: HTTPS protocol",
      "AllowedValues": [
        "tcp",
        "http",
        "https"
      ]
    },
    "ThresholdCount": {
      "Type": "Number",
      "Description": "The number of consecutive failed heath checks that must occur before declaring an endpoint unhealthy."
    },
    "HealthCheckPort": {
      "Type": "Number",
      "Description": "The port that is used to connect with the targets for health checks."
    },
    "AcceleratorId": {
      "Type": "String",
      "Description": "The ID of the Global Accelerator instance with which the endpoint group will be associated."
    },
    "EndpointConfigurations": {
      "Type": "Json",
      "Description": "",
      "MinLength": 1,
      "MaxLength": 4
    },
    "Name": {
      "Type": "String",
```

```
      "Description": "The name of the endpoint group."
    },
    "ListenerId": {
      "Type": "String",
      "Description": "The ID of the listener to be associated with the endpoint group."
    }
  },
  "Resources": {
    "EndpointGroup": {
      "Type": "ALIYUN::GA::EndpointGroup",
      "Properties": {
        "HealthCheckIntervalSeconds": {
          "Ref": "HealthCheckIntervalSeconds"
        },
        "EndpointGroupRegion": {
          "Ref": "EndpointGroupRegion"
        },
        "TrafficPercentage": {
          "Ref": "TrafficPercentage"
        },
        "Description": {
          "Ref": "Description"
        },
        "HealthCheckPath": {
          "Ref": "HealthCheckPath"
        },
        "HealthCheckProtocol": {
          "Ref": "HealthCheckProtocol"
        },
        "ThresholdCount": {
          "Ref": "ThresholdCount"
        },
        "HealthCheckPort": {
          "Ref": "HealthCheckPort"
        },
        "AcceleratorId": {
          "Ref": "AcceleratorId"
        },
        "EndpointConfigurations": {
          "Ref": "EndpointConfigurations"
        },
        "Name": {
          "Ref": "Name"
        },
        "ListenerId": {
          "Ref": "ListenerId"
        }
      }
    }
  },
  "Outputs": {
    "EndpointGroupId": {
      "Description": "The ID of the endpoint group.",
      "Value": {
        "Fn::GetAtt": [
          "EndpointGroup",
          "EndpointGroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  HealthCheckIntervalSeconds:
    Type: Number
    Description: 'The interval between two consecutive health checks. Unit: seconds.'
  EndpointGroupRegion:
    Type: String
    Description: The region ID of the endpoint group.
```

```
  TrafficPercentage:
    Type: Number
    Description: >-
      The weight of the endpoint group when the corresponding listener is
      associated with
      multiple endpoint groups.
  Description:
    Type: String
    Description: The description of the endpoint group.
  HealthCheckPath:
    Type: String
    Description: The path set as the destination on the targets for health checks.
  HealthCheckProtocol:
    Type: String
    Description: |-
      The protocol that is used to connect with the targets for health checks.
      tcp: TCP protocol
      http: HTTP protocol
      https: HTTPS protocol
    AllowedValues:
      -tcp
      -http
      -https
  ThresholdCount:
    Type: Number
    Description: >-
      The number of consecutive failed heath checks that must occur before
      declaring an endpoint unhealthy.
  HealthCheckPort:
    Type: Number
    Description: The port that is used to connect with the targets for health checks.
  AcceleratorId:
    Type: String
    Description: >-
      The ID of the Global Accelerator instance with which the endpoint group
      will be associated.
  EndpointConfigurations:
    Type: Json
    Description: ''
    MinLength: 1
    MaxLength: 4
  Name:
    Type: String
    Description: The name of the endpoint group.
  ListenerId:
    Type: String
    Description: The ID of the listener to be associated with the endpoint group.
Resources:
  EndpointGroup:
    Type: 'ALIYUN::GA::EndpointGroup'
    Properties:
      HealthCheckIntervalSeconds:
        Ref: HealthCheckIntervalSeconds
      EndpointGroupRegion:
        Ref: EndpointGroupRegion
      TrafficPercentage:
        Ref: TrafficPercentage
      Description:
        Ref: Description
      HealthCheckPath:
        Ref: HealthCheckPath
      HealthCheckProtocol:
        Ref: HealthCheckProtocol
      ThresholdCount:
        Ref: ThresholdCount
      HealthCheckPort:
        Ref: HealthCheckPort
      AcceleratorId:
        Ref: AcceleratorId
      EndpointConfigurations:
        Ref: EndpointConfigurations
      Name:
        Ref: Name
      ListenerId:
        Ref: ListenerId
```

```
        Ref: ListenerId
Outputs:
  EndpointGroupId:
    Description: The ID of the endpoint group.
    Value:
      'Fn::GetAtt':
        -EndpointGroup
        -EndpointGroupId
```

37.5. ALIYUN::GA::IpSets

ALIYUN::GA::IpSets is used to create one or more acceleration regions.

Syntax

```
{
  "Type": "ALIYUN::GA::IpSets",
  "Properties": {
    "AccelerateRegion": List,
    "AcceleratorId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AccelerateRegion	List	Yes	Yes	The regions where data transfer is to be accelerated.	A maximum of five acceleration regions can be created. For more information, see AccelerateRegion properties.
AcceleratorId	String	Yes	No	The ID of the Global Accelerator (GA) instance.	None

AccelerateRegion syntax

```
"AccelerateRegion": [
  {
    "Bandwidth": Integer,
    "AccelerateRegionId": String,
    "IpVersion": String
  }
]
```

AccelerateRegion properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Bandwidth	Integer	Yes	Yes	The bandwidth that is allocated to the acceleration region.	Unit: Mbit/s. Each acceleration region must be allocated a minimum of 2 Mbit/s bandwidth. **Note** The total bandwidth for all acceleration regions cannot exceed the amount that is included in your basic bandwidth plan.
AccelerateRegionId	String	Yes	No	The ID of the acceleration region.	None
IpVersion	String	No	No	The version of the Internet protocol.	Valid values: • IPv4 • IPv6

Response parameters

Fn::GetAtt

- AccelerateRegionIds: the IDs of the acceleration regions.
- IpSetIds: the configurations of the acceleration regions.
- IpVersions: the IP versions of the acceleration regions.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AccelerateRegion": {
      "Type": "Json",
      "Description": "",
      "MaxLength": 5
    },
    "AcceleratorId": {
      "Type": "String",
      "Description": "The ID of the GA instance."
    }
  },
  "Resources": {
    "IpSets": {
      "Type": "ALIYUN::GA::IpSets",
      "Properties": {
        "AccelerateRegion": {
          "Ref": "AccelerateRegion"
        },
        "AcceleratorId": {
          "Ref": "AcceleratorId"
        }
      }
    }
  },
  "Outputs": {
    "AccelerateRegionIds": {
      "Description": "The ID list of the accelerate region.",
      "Value": {
        "Fn::GetAtt": [
          "IpSets",
          "AccelerateRegionIds"
        ]
      }
    },
    "IpVersions": {
      "Description": "The IP version list of the accelerate region.",
      "Value": {
        "Fn::GetAtt": [
          "IpSets",
          "IpVersions"
        ]
      }
    },
    "IpSetIds": {
      "Description": "The ID list of the ip set.",
      "Value": {
        "Fn::GetAtt": [
          "IpSets",
          "IpSetIds"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccelerateRegion:
    Type: Json
    Description: ''
    MaxLength: 5
  AcceleratorId:
    Type: String
    Description: The ID of the GA instance.
Resources:
  IpSets:
    Type: 'ALIYUN::GA::IpSets'
    Properties:
      AccelerateRegion:
        Ref: AccelerateRegion
      AcceleratorId:
        Ref: AcceleratorId
Outputs:
  AccelerateRegionIds:
    Description: The ID list of the accelerate region.
    Value:
      'Fn::GetAtt':
        - IpSets
        - AccelerateRegionIds
  IpVersions:
    Description: The IP version list of the accelerate region.
    Value:
      'Fn::GetAtt':
        - IpSets
        - IpVersions
  IpSetIds:
    Description: The ID list of the ip set.
    Value:
      'Fn::GetAtt':
        - IpSets
        - IpSetIds
```

37.6. ALIYUN::GA::Listener

ALIYUN::GA::Listener is used to create a Listener.

Syntax

```
{
  "Type": "ALIYUN::GA::Listener",
  "Properties": {
    "Description": String,
    "PortRanges": List,
    "Protocol": String,
    "AcceleratorId": String,
    "Name": String,
    "ClientAffinity": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the listener.	None
PortRanges	List	Yes	Yes	The listening port.	Supports up to 10 listening ports. For more information, see PortRanges properties.

Property	Type	Required	Editable	Description	Constraint
Protocol	String	Yes	Yes	The network transmission protocol of the listener.	Valid values: • tcp • udp
AcceleratorId	String	Yes	No	The ID of the GA instance.	None
Name	String	No	Yes	The name of the listener.	The name must be 2 to 128 characters in length And can contain letters, digits, underscores (_), and hyphens (-).
ClientAffinity	String	No	Yes	Indicates whether client affinity is enabled for the listener.	Valid values: • None: dislinks the affinity between clients and does not ensure that connection requests from the same client are always directed to the same endpoint. • SOURCE_IP: maintains client affinity. When a client accesses a stateful application, it can direct all requests from the same client to the same endpoint, regardless of the source port and protocol.

PortRanges syntax

```
"PortRanges": [
  {
    "FromPort": Integer,
    "ToPort": Integer
  }
]
```

PortRanges properties

Property	Type	Required	Editable	Description	Constraint
FromPort	Integer	Yes	Yes	The first listening port of the port range specified for receiving and forwarding requests to endpoints.	None
ToPort	Integer	Yes	Yes	The last listening port of the port range specified for receiving and forwarding requests to endpoints.	None

Response parameters

Fn::GetAtt

ListenerId: the ID of the listener.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the listener."
    },
    "PortRanges": {
      "Type": "Json",
      "Description": "",
      "MinLength": 1,
      "MaxLength": 10
    },
    "Protocol": {
      "Type": "String",
      "Description": "The network transmission protocol of the listener. Valid values:\ntcp: TCP protocol\nudp: UDP protocol",
      "AllowedValues": [
        "tcp",
        "udp"
      ]
    },
    "AcceleratorId": {
      "Type": "String",
      "Description": "The ID of the Global Accelerator instance to which the listener will be added."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the listener.\nThe name must be 2 to 128 characters in length and can contain letters, digits
, underscores\n(_), and hyphens (-). It must start with a letter or Chinese character."
    },
    "ClientAffinity": {
      "Type": "String",
      "Description": "Specifies whether to enable client affinity for the listener.\nIf you do not specify the default value in
the parameter, client affinity is disabled.\nWhen client affinity is disabled, the connections from a specific source (client)\
nIP address are not always routed to the same endpoint.\nIf you set the value to SOURCE_IP, client affinity is enabled. When cl
ient affinity is enabled, the connections from\na specific source (client) IP address are always routed to the same endpoint.",
      "AllowedValues": [
        "NONE",
        "SOURCE_IP"
      ]
    }
  },
  "Resources": {
    "Listener": {
      "Type": "ALIYUN::GA::Listener",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "PortRanges": {
          "Ref": "PortRanges"
        },
        "Protocol": {
          "Ref": "Protocol"
        },
        "AcceleratorId": {
          "Ref": "AcceleratorId"
        },
        "Name": {
          "Ref": "Name"
        },
        "ClientAffinity": {
          "Ref": "ClientAffinity"
        }
      }
    }
  },
  "Outputs": {
    "ListenerId": {
      "Description": "The ID of the listener.",
```

```
      "Value": {
        "Fn::GetAtt": [
          "Listener",
          "ListenerId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: The description of the listener.
  PortRanges:
    Type: Json
    Description: ''
    MinLength: 1
    MaxLength: 10
  Protocol:
    Type: String
    Description: |-
      The network transmission protocol of the listener. Valid values:
      tcp: TCP protocol
      udp: UDP protocol
    AllowedValues:
      -tcp
      -udp
  AcceleratorId:
    Type: String
    Description: >-
      The ID of the Global Accelerator instance to which the listener will be
      added.
  Name:
    Type: String
    Description: >-
      The name of the listener.
      The name must be 2 to 128 characters in length and can contain letters,
      digits, underscores
      (_), and hyphens (-). It must start with a letter or Chinese character.
  ClientAffinity:
    Type: String
    Description: >-
      Specifies whether to enable client affinity for the listener.
      If you do not specify the default value in the parameter, client affinity
      is disabled.
      When client affinity is disabled and the connections from a specific source
      (client)
      IP address are not always routed to the same endpoint.
      If you set the value to SOURCE_IP, client affinity is enabled. When client
      affinity is enabled and the connections from
      a specific source (client) IP address are always routed to the same
      endpoint.
    AllowedValues:
      -NONE
      -SOURCE_IP
Resources:
  Listener:
    Type: 'ALIYUN::GA::Listener'
    Properties:
      Description:
        Ref: Description
      PortRanges:
        Ref: PortRanges
      Protocol:
        Ref: Protocol
      AcceleratorId:
        Ref: AcceleratorId
      Name:
        Ref: Name
      ClientAffinity:
        Ref: ClientAffinity
Outputs:
  ListenerId:
    Description: The ID of the listener.
    Value:
      'Fn::GetAtt':
        -Listener
        -ListenerId
```

38.GPDB

38.1. ALIYUN::GPDB::DBInstance

ALIYUN::GPDB::DBInstance is used to create an AnalyticDB for PostgreSQL instance in reserved mode.

Syntax

```
{
  "Type": "ALIYUN::GPDB::DBInstance",
  "Properties": {
    "EngineVersion": String,
    "ZoneId": String,
    "VSwitchId": String,
    "DBInstanceClass": String,
    "DBInstanceGroupCount": Integer,
    "VPCId": String,
    "SecurityIPList": String,
    "DBInstanceDescription": String,
    "PayType": String,
    "Period": Integer,
    "PeriodUnit": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
EngineVersion	String	Yes	No	The version of the engine.	Sample values: • 6.0: 6.0 Standard Edition • 6.0x: 6.0 Vector Enhanced Edition
ZoneId	String	Yes	No	The ID of the zone.	Sample value: cn-hangzhou-h. For more information about zone IDs, see DescribeRegions.
VSwitchId	String	Yes	No	The ID of the vSwitch.	Sample value: vsw-bp183p93qs667muql****.
DBInstanceClass	String	Yes	No	The instance type.	Sample value: gpdb.group.segsdx2. For more information about instance types, see Instance types.
DBInstanceGroupCount	Integer	Yes	No	The number of compute nodes in the AnalyticDB for PostgreSQL instance.	Sample value: 2.
VPCId	String	No	No	The ID of the virtual private cloud (VPC).	Sample value: vpc-bp1m6fww66xbntjyc****.
SecurityIPList	String	No	Yes	The whitelist of IP addresses.	Default value: 127.0.0.1.
DBInstanceDescription	String	No	Yes	The description of the instance.	Sample value: AnalyticDB PostgreSQL DB Instance. The description can be up to 256 characters in length.
PayType	String	No	No	The billing method of the instance.	Default value: Postpaid. Valid values: • Postpaid: pay-as-you-go • Prepaid: subscription

Property	Type	Required	Editable	Description	Constraint
Period	Integer	No	No	The subscription period of the instance.	• Valid values when PeriodUnit is set to Month: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11. • Valid values when PeriodUnit is set to Year: 1, 2, and 3.
PeriodUnit	String	No	No	The unit of the subscription period.	Default value: Month. Valid values: • Month • Year

Response parameters

Fn::GetAtt

- DBInstanceId: the ID of the instance.
- Port: the port used to connect to the instance.
- OrderId: the ID of the order.
- ConnectionString: the connection string of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ZoneId": {
      "Type": "String"
    },
    "VpcId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId"
    },
    "VSwitchId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "ZoneId": "ZoneId",
        "VpcId": "VpcId"
      }
    }
  },
  "Resources": {
    "DBInstance": {
      "Type": "ALIYUN::GPDB::DBInstance",
      "Properties": {
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VPCId": {
          "Ref": "VpcId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "DBInstanceGroupCount": 2,
        "EngineVersion": "6.0",
        "DBInstanceClass": "gpdb.group.segsdx2",
        "DBInstanceDescription": "AnalyticDB PostgreSQL DB Instance"
      }
    }
  },
  "Outputs": {
    "OrderId": {
      "Value": { "Fn::GetAtt": ["DBInstance", "OrderId"] }
    },
    "ConnectionString": {
      "Value": { "Fn::GetAtt": ["DBInstance", "ConnectionString"] }
    },
    "DBInstanceId": {
      "Value": { "Fn::GetAtt": ["DBInstance", "DBInstanceId"] }
    },
    "Port": {
      "Value": { "Fn::GetAtt": ["DBInstance", "Port"] }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ZoneId:
    Type: String
  VpcId:
    Type: String
    AssociationProperty: 'ALIYUN::ECS::VPC::VPCId'
  VSwitchId:
    Type: String
    AssociationProperty: 'ALIYUN::ECS::VSwitch::VSwitchId'
    AssociationPropertyMetadata:
      ZoneId: ZoneId
      VpcId: VpcId
Resources:
  DBInstance:
    Type: 'ALIYUN::GPDB::DBInstance'
    Properties:
      ZoneId:
        Ref: ZoneId
      VPCId:
        Ref: VpcId
      VSwitchId:
        Ref: VSwitchId
      DBInstanceGroupCount: 2
      EngineVersion: '6.0'
      DBInstanceClass: gpdb.group.segsdx2
      DBInstanceDescription: AnalyticDB PostgreSQL DB Instance
Outputs:
  OrderId:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - OrderId
  ConnectionString:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - ConnectionString
  DBInstanceId:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - DBInstanceId
  Port:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - Port
```

38.2. ALIYUN::GPDB::ElasticDBInstance

ALIYUN::GPDB::ElasticDBInstance is used to create an AnalyticDB for PostgreSQL instance in elastic storage mode.

Syntax

```
{
  "Type": "ALIYUN::GPDB::ElasticDBInstance",
  "Properties": {
    "EngineVersion": String,
    "InstanceSpec": String,
    "ZoneId": String,
    "VSwitchId": String,
    "SegNodeNum": Integer,
    "SegStorageType": String,
    "StorageSize": Integer,
    "MasterNodeNum": Integer,
    "EncryptionType": String,
    "EncryptionKey": String,
    "VPCId": String,
    "SecurityIPList": String,
    "DBInstanceDescription": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
EngineVersion	String	Yes	No	The version of the engine that the instance runs.	The possible values include: • 6.0: 6.0 Standard Edition • 6.0x: 6.0 Vector Enhanced Edition
InstanceSpec	String	Yes	No	The specifications of the instance.	The possible values include: • 2C16G • 4C32G • 16C128G
ZoneId	String	Yes	No	The zone ID of the instance.	The possible values include: cn-hangzhou-h. For more information about zone IDs, see DescribeRegions.
VSwitchId	String	Yes	No	The ID of the vSwitch.	The possible values include: vsw-bp183p93qs667muql****.
SegNodeNum	Integer	Yes	No	The number of nodes in the instance.	Valid values: 4 to 512.
SegStorageType	String	Yes	No	The disk type of the node.	The possible values include: • cloud_efficiency: ultra disk • cloud_ssd: standard SSD
StorageSize	Integer	Yes	No	The storage capacity of the node.	Valid values: 50 to 4000. Unit: GB. **Note** You can adjust the value in increments of 50 GB.
MasterNodeNum	Integer	No	No	The number of coordinator nodes.	Valid values: 1 and 2.

Property	Type	Required	Editable	Description	Constraint
EncryptionType	String	No	No	The encryption type of the disk.	Default value: NULL. Valid values: • NULL: does not enable disk encryption. • CloudDisk: enables disk encryption. After you enable disk encryption, you must configure the EncryptionKey parameter to specify the customer master key. Note You cannot disable disk encryption after you enable it.
EncryptionKey	String	No	No	The ID of the key.	When EncryptionType is set to CloudDisk, you must set the EncryptionKey parameter to the ID of the key that belongs to the same region as the instance. Otherwise, the EncryptionKey parameter is left empty.
VPCId	String	No	No	The ID of the virtual private cloud (VPC).	The possible values include: vpc-bp1m6fww66xbntjyc****.
SecurityIPList	String	No	Yes	The whitelist of IP addresses.	Default value: 127.0.0.1.
DBInstanceDescription	String	No	Yes	The description of the instance.	The possible values include: An AnalyticDB for PostgreSQL instance. The description can be up to 256 characters in length.

Response parameters

Fn::GetAtt

- DBInstanceId: the ID of the instance.
- Port: the port that is used to connect to the instance.
- OrderId: the ID of the order.
- ConnectionString: the connection string of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ZoneId": {
      "Type": "String"
    },
    "VpcId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId"
    },
    "VSwitchId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "ZoneId": "ZoneId",
        "VpcId": "VpcId"
      }
    }
  },
  "Resources": {
    "DBInstance": {
      "Type": "ALIYUN::GPDB::ElasticDBInstance",
      "Properties": {
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VPCId": {
          "Ref": "VpcId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "EngineVersion": "6.0",
        "InstanceSpec": "2C16G",
        "SegNodeNum": 8,
        "SegStorageType": "cloud_essd",
        "StorageSize": 100
      }
    }
  },
  "Outputs": {
    "OrderId": {
      "Value": { "Fn::GetAtt": ["DBInstance", "OrderId"] }
    },
    "ConnectionString": {
      "Value": { "Fn::GetAtt": ["DBInstance", "ConnectionString"] }
    },
    "DBInstanceId": {
      "Value": { "Fn::GetAtt": ["DBInstance", "DBInstanceId"] }
    },
    "Port": {
      "Value": { "Fn::GetAtt": ["DBInstance", "Port"] }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ZoneId:
    Type: String
  VpcId:
    Type: String
    AssociationProperty: 'ALIYUN::ECS::VPC::VPCId'
  VSwitchId:
    Type: String
    AssociationProperty: 'ALIYUN::ECS::VSwitch::VSwitchId'
    AssociationPropertyMetadata:
      ZoneId: ZoneId
      VpcId: VpcId
Resources:
  DBInstance:
    Type: 'ALIYUN::GPDB::ElasticDBInstance'
    Properties:
      ZoneId:
        Ref: ZoneId
      VPCId:
        Ref: VpcId
      VSwitchId:
        Ref: VSwitchId
      EngineVersion: '6.0'
      InstanceSpec: 2C16G
      SegNodeNum: 8
      SegStorageType: cloud_essd
      StorageSize: 100
Outputs:
  OrderId:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - OrderId
  ConnectionString:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - ConnectionString
  DBInstanceId:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - DBInstanceId
  Port:
    Value:
      'Fn::GetAtt':
        - DBInstance
        - Port
```

38.3. ALIYUN::GPDB::InstancePublicConnection

ALIYUN::GPDB::InstancePublicConnection is used to allocate a public connection string to an instance.

Syntax

```
{
  "Type": "ALIYUN::GPDB::DBInstance",
  "Properties": {
    "DBInstanceId": String,
    "ConnectionStringPrefix": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
DBInstanceId	String	Yes	No	The ID of the instance.	You can create an instance and obtain its ID by making an API call to the ALIYUN::GPDB::DBInstance or ALIYUN::GPDB::ElasticDBInstance resource type or by using the AnalyticDB for PostgreSQL console.
Port	Integer	Yes	No	The port number.	None
ConnectionStringPrefix	String	Yes	No	The prefix of the connection string.	None

Response parameters

Fn::GetAtt

- DBInstanceId: the ID of the instance.
- ConnectionString: the connection string of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "InstancePublicConnection": {
      "Type": "ALIYUN::GPDB::InstancePublicConnection",
      "Properties": {
        "ConnectionStringPrefix": "gp-2zef492q66we7h***-mytest",
        "DBInstanceId": "gp-2zef492q66we7h***",
        "Port": 5432
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Value": { "Fn::GetAtt": ["InstancePublicConnection", "DBInstanceId"] }
    },
    "ConnectionString": {
      "Value": { "Ref": "InstancePublicConnection" }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  InstancePublicConnection:
    Type: 'ALIYUN::GPDB::InstancePublicConnection'
    Properties:
      ConnectionStringPrefix: gp-2zef492q66we7h***-mytest
      DBInstanceId: gp-2zef492q66we7h***
      Port: 5432
Outputs:
  DBInstanceId:
    Value:
      'Fn::GetAtt':
        - InstancePublicConnection
        - DBInstanceId
  ConnectionString:
    Value:
      Ref: InstancePublicConnection
```

39.HBR

39.1. ALIYUN::HBR::BackupClients

ALIYUN::HBR::BackupClients is used to install one or more backup clients on ECS instances.

Syntax

```
{
  "Type": "ALIYUN::HBR::BackupClients",
  "Properties": {
    "InstanceIds": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceIds	List	Yes	No	The IDs of one or more ECS instances on which to install a backup client.	You can install backup clients on a maximum of 20 ECS instances

Response parameters

Fn::GetAtt

- InstanceIds: the IDs of one or more ECS instances on which backup clients are installed.
- ClientIds: one or more backup client IDs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceIds": {
      "Type": "Json",
      "Description": "ID list of instances to install backup client",
      "MinLength": 1,
      "MaxLength": 20
    }
  },
  "Resources": {
    "BackupClients": {
      "Type": "ALIYUN::HBR::BackupClients",
      "Properties": {
        "InstanceIds": {
          "Ref": "InstanceIds"
        }
      }
    }
  },
  "Outputs": {
    "InstanceIds": {
      "Description": "ID list of instances to install backup client",
      "Value": {
        "Fn::GetAtt": [
          "BackupClients",
          "InstanceIds"
        ]
      }
    },
    "ClientIds": {
      "Description": "ID list of clients installed in instances",
      "Value": {
        "Fn::GetAtt": [
          "BackupClients",
          "ClientIds"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InstanceIds:
    Type: Json
    Description: ID list of instances to install backup client
    MinLength: 1
    MaxLength: 20
Resources:
  BackupClients:
    Type: 'ALIYUN::HBR::BackupClients'
    Properties:
      InstanceIds:
        Ref: InstanceIds
Outputs:
  InstanceIds:
    Description: ID list of instances to install backup client
    Value:
      'Fn::GetAtt':
        - BackupClients
        - InstanceIds
  ClientIds:
    Description: ID list of clients installed in instances
    Value:
      'Fn::GetAtt':
        - BackupClients
        - ClientIds
```

39.2. ALIYUN::HBR::DbAgent

ALIYUN::HBR::DbAgent is used to install a Hybrid Backup Recovery (HBR) backup client for a database.

Syntax

```
{
  "Type": "ALIYUN::HBR::DbAgent",
  "Properties": {
    "InstanceInfo": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceInfo	List	Yes	No	The information about the Elastic Compute Service (ECS) instance.	The information must be 1 to 100 characters in length. For more information, see InstanceInfo syntax and InstanceInfo properties.

InstanceInfo syntax

```
"InstanceInfo": [
  {
    "UserName": String,
    "InstanceId": String,
    "SourceType": String,
    "Password": String,
    "AuthenticationType": String
  }
]
```

InstanceInfo properties

Property	Type	Required	Editable	Description	Constraint
UserName	String	No	No	The username of the account to which the database that you want to back up belongs.	None.
InstanceId	String	Yes	No	The ID of the ECS instance.	None.
SourceType	String	Yes	No	The type of the source database.	Valid values: • MYSQL • ORACLE • MSSQL
Password	String	No	No	The password of the account to which the database that you want to back up belongs.	None.
AuthenticationType	String	No	No	The authentication method.	Valid values: • Valid value if you set SourceType to MYSQL or MSSQL: INSTANCE. • Valid value if you set SourceType to ORACLE: ACCESS_KEY.

Response parameters

Fn::GetAtt

- UniBackupInstances: the IDs of the database instances that are backed up.
- TaskId: the ID of the task.
- UniBackupInstanceDetails: the details of the database instance that is backed up.
- InstanceIds: the IDs of the ECS instances.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceInfo": {
      "Type": "Json",
      "Description": "Instance infos",
      "Default": "[\n  {\n    \"UserName\": \"test123\",\n    \"InstanceId\": \"i-12e****\",\n    \"SourceType\": \"MSSQL\",\n
\"Password\": \"tes****\",\n    \"AuthenticationType\": \"INSTANCE\"\n  }\n]"
    }
  },
  "Resources": {
    "UniBackupAgent": {
      "Type": "ALIYUN::HBR::DbAgent",
      "Properties": {
        "InstanceInfo": {
          "Ref": "InstanceInfo"
        }
      }
    }
  },
  "Outputs": {
    "UniBackupInstances": {
      "Description": "Uni backup agent instance info",
      "Value": {
        "Fn::GetAtt": [
          "UniBackupAgent",
          "UniBackupInstances"
        ]
      }
    },
    "TaskId": {
      "Description": "Uni backup agent install task id.",
      "Value": {
        "Fn::GetAtt": [
          "UniBackupAgent",
          "TaskId"
        ]
      }
    },
    "UniBackupInstanceDetails": {
      "Description": "Uni backup agent instance info details",
      "Value": {
        "Fn::GetAtt": [
          "UniBackupAgent",
          "UniBackupInstanceDetails"
        ]
      }
    },
    "InstanceIds": {
      "Description": "Uni backup agent instance ids",
      "Value": {
        "Fn::GetAtt": [
          "UniBackupAgent",
          "InstanceIds"
        ]
      }
    }
  }
}
```

39.3. ALIYUN::HBR::DbPlan

ALIYUN::HBR::DbPlan is used to create a backup plan.

Syntax

```
{
  "Type": "ALIYUN::HBR::DbPlan",
  "Properties": {
    "Options": String,
    "InstanceUuid": String,
    "SourceType": String,
    "VaultId": String,
    "Source": Map,
    "ContinuousPlan": String,
    "IncPlan": String,
    "MaxRetrySeconds": Integer,
    "HostUuid": String,
    "CumulativePlan": String,
    "FullPlan": String,
    "LogPlan": String,
    "MaxRateLimit": Integer,
    "DbPlanName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint

Options	String	No	No	The backup options.	The value is a JSON string and varies based on the SourceType value. Sample values:
					• Sample value if you set SourceType to ORACLE: `{"channels":4,"compression":"lzop","offline_backup":false,"archivelog_reserve_hours":24,"custom_commands":""}`.
					  ○ channels: the number of concurrent backup operations.
					  ○ archivelog_reserve_hours: the time to delete archived logs after the backup is completed.
					  ○ Other parameters in the sample value: If you do not specify these parameters, the default values of them are used.
					  Note For more information about how to back up an Oracle database, see 备份 Oracle.
					• Sample value if you set SourceType to MYSQL: `{"channels":4,"compression":"lzop","del_binlog":false}`.
					  `del_binlog`: indicates whether to delete binary logs after the backup is completed. This parameter only takes effect for log backup and real-time backup.
					  Note For more information about how to back up a MySQL database, see Back up a MySQL database.
					• Sample value if you set SourceType to MSSQL: `{\"channels\":4,\"verify\":false,\"compression\":\"lzop\",\"backup_new_databases\":false}`.
					  Note For more information about how to back up a SQL Server database, see Back up an SQL Server database.

InstanceUuid	String	No	No	The UUID of the database instance.	None.
SourceType	String	Yes	Yes	The type of the source database.	Valid values: • MYSQL • ORACLE • MSSQL
VaultId	String	Yes	No	The ID of the backup vault.	None.
Source	Map	No	No	The database instance that you want to back up.	For more information, see Source syntax and Source properties.

Property	Type	Required	Editable	Description	Constraint
ContinuousPlan	String	No	Yes	The continuous backup plan for logs.	Set the value to `{"type": "continuous"}`.
IncPlan	String	No	Yes	The incremental backup plan.	This parameter is applicable only to source MySQL and Oracle databases. The value is a JSON string. Sample values: • `{"type": "daily", "start": "00:00:00", "interval": 3},` : When you back up the database on a daily basis, the value is used. • `{"type":"weekly","start": "03:00:00","days": [1,2,3,4,5],"interval": 1}` : When you back up the database on a weekly basis, the value is used. **Note** • day: a specific day. Valid values of day: 0 to 6. 0 indicates Sunday. • interval: the interval between consecutive backup plans. Valid values of interval: 1 to 52.
MaxRetrySeconds	Integer	No	Yes	The time to re-connect to a database after the database is disconnected	during backup. Default value: 600. Unit: seconds.
HostUuid	String	Yes	No	The UUID of the client.	None.
CumulativePlan	String	No	Yes	The cumulative incremental backup plan.	This parameter is applicable only to source SQL Server databases. The value is a JSON string. Sample values: • `{"type": "daily", "start": "00:00:00", "interval": 3},` : When you back up the database on a daily basis, the value is used. • `{"type":"weekly","start": "03:00:00","days": [1,2,3,4,5],"interval": 1}` : When you back up the database on a weekly basis, the value is used. **Note** • day: a specific day. Valid values of day: 0 to 6. 0 indicates Sunday. • interval: the interval between consecutive backup plans. Valid values of interval: 1 to 52.

Property	Type	Required	Editable	Description	Constraint
FullPlan	String	No	Yes	The full backup plan.	The value is a JSON string. Sample values: • `{"type": "daily", "start": "00:00:00", "interval": 3},` : When you back up the database on a daily basis, the value is used. • `{"type":"weekly","start": "03:00:00","days": [1,2,3,4,5],"interval": 1}` : When you back up the database on a weekly basis, the value is used. **Note** • day: a specific day. Valid values of day: 0 to 6. 0 indicates Sunday. • interval: the interval between consecutive backup plans. Valid values of interval: 1 to 52.
LogPlan	String	No	Yes	The backup plan for logs.	The value is a JSON string. Sample values: • `{"type": "daily", "start": "00:00:00", "interval": 3},` : When you back up the database on a daily basis, the value is used. • `{"type":"weekly","start": "03:00:00","days": [1,2,3,4,5],"interval": 1}` : When you back up the database on a weekly basis, the value is used. **Note** • day: a specific day. Valid values of day: 0 to 6. 0 indicates Sunday. • interval: the interval between consecutive backup plans. Valid values of interval: 1 to 52.
MaxRateLimit	Integer	No	Yes	The maximum value of the backup speed.	Default value: 0. 0 indicates that the backup speed is not limited.
DbPlanName	String	Yes	Yes	The name of the backup plan.	None.

Source syntax

```
"Source": {
  "Entries": List
}
```

Source properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Entries	List	No	No	The source database instance.	Valid values: • Valid value if you set SourceType to ORACLE: `["oracle://${instanceName}", "oracle://${instanceName}/archivelog"]`. `${instanceName}`: the name of the Oracle database instance. You can specify the ALIYUN::HBR::DbAgent resource type to obtain the name. • Valid value if you set SourceType to MYSQL: `["mysql://${instanceName}"]`. `${instanceName}`: the name of the MySQL database instance. You can specify the ALIYUN::HBR::DbAgent resource type to obtain the name. • Valid value if you set SourceType to MSSQL: `["mssql://${instanceName}/${databse1}", "mssql://${instanceName}/${databse2}"]`. `${database}`: the name of the SQL Server database. You can specify the ALIYUN::HBR::DbAgent resource type to obtain the name.

Response parameters

Fn::GetAtt

- Options: the backup options. The value is in the JSON format.
- InstanceId: the ID of the database instance.
- CumulativeUuid: the ID of the incremental backup plan.
- SourceType: the type of the source database.
- PlanId: the ID of the backup plan.
- LogUuid: the ID of the log.
- VaultId: the ID of the backup vault.
- IncUuid: the ID of the incremental backup plan.
- ContinuousPlan: the continuous backup plan for logs.
- IncPlan: the incremental backup plan.
- MaxRetrySeconds: the time that is consumed to re-connect to the database after the database is disconnected.
- Target: the database that is backed up.
- HostUuid: the UUID of the client.
- ContinuousUuid: the UUID of the continuous backup plan for logs.
- CumulativePlan: the cumulative incremental backup plan.
- FullPlan: the full backup plan.
- LogPlan: the log backup plan.
- MaxRateLimit: the maximum value of the backup speed.
- FullUuid: the UUID of the full backup plan.
- DbPlanName: the name of the backup plan.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Options": {
      "Type": "String",
      "Description": "Backup options in json format, different for each type of database. For Oracle, use {\"channels\":4,\"com
pression\":\"lzop\",\"offline_backup\":false,\"archivelog_reserve_hours\":24,\"custom_commands\":\"\"}, \"channels\" means numb
ers of concurrent theads, \"archivelog_reserve_hours\" means how long before the archive log will be deleted after backup job c
```

```
ompleted, other paramters should use the default vaule. For Mysql, use {\"channels\":4,\"compression\":\"lzop\",\"del_binlog\":
false}, \"del_binlog\" means whether the binlog will be deleted after backup completed, only take effect for log or continuous
backup. For SQL Server, use {\\\"channels\\\":4,\\\"verify\\\":false,\\\"compression\\\":\\\"lzop\\\",\\\"backup_new_databases\
\\":false}.",
      "Default": "{\"channels\":4,\"compression\":\"lzop\",\"del_binlog\":false}"
    },
    "InstanceUuid": {
      "Type": "String",
      "Description": "Uuid of database instance.",
      "Default": "d12729b82116154****"
    },
    "SourceType": {
      "Type": "String",
      "Description": "Database type, allowed value: MySQL, ORACLE, MSSQL",
      "Default": "MySQL"
    },
    "VaultId": {
      "Type": "String",
      "Description": "Vault ID to create backup plan, the backup data will be stored to the vault.",
      "Default": "v-df****"
    },
    "Source": {
      "Type": "Json",
      "Description": "Which database instance or database will be backup.",
      "Default": "{\n  \"Entries\": [\n    \"mysql://MySQL-3306\"\n  ]\n}"
    },
    "ContinuousPlan": {
      "Type": "String",
      "Description": "Continuous backup plan schedule. Use {   \"type\": \"continuous\" }.",
      "Default": "continuous"
    },
    "IncPlan": {
      "Type": "String",
      "Description": "Incremental backup plan schedule. Only for mysql and oracle. More details see FullPlan.",
      "Default": "{\n    \"interval\": 1,\n    \"start\": \"00:00:00\",\n    \"type\": \"daily\"\n  }"
    },
    "MaxRetrySeconds": {
      "Type": "Number",
      "Description": "Max retry seconds on network failure.",
      "Default": "600"
    },
    "HostUuid": {
      "Type": "String",
      "Description": "Uuid of the host of the database instance.",
      "Default": "701781640b3afc****"
    },
    "FullPlan": {
      "Type": "String",
      "Description": "Full backup plan schedule. daily: {\"type\": \"daily\", \"start\": \"00:00:00\", \"interval\": 3}, weekly
{\"type\":\"weekly\",\"start\": \"03:00:00\",\"days\": [1,2,3,4,5],\"interval\": 1}, days can be 0 - 6, 0 means Sunday, and int
erval can be 1 - 52.",
      "Default": "{\n    \"days\": [\n      6\n    ],\n    \"interval\": 1,\n    \"start\": \"18:00:00\",\n    \"type\": \"week
ly\"\n  }"
    },
    "DbPlanName": {
      "Type": "String",
      "Description": "Display name of the backup plan.",
      "Default": "test"
    }
  },
  "Resources": {
    "HBRDbPlan": {
      "Type": "ALIYUN::HBR::DbPlan",
      "Properties": {
        "Options": {
          "Ref": "Options"
        },
        "InstanceUuid": {
          "Ref": "InstanceUuid"
        },
        "SourceType": {
          "Ref": "SourceType"
        },
        "VaultId": {
```

```
          "Ref": "VaultId"
        },
        "Source": {
          "Ref": "Source"
        },
        "ContinuousPlan": {
          "Ref": "ContinuousPlan"
        },
        "IncPlan": {
          "Ref": "IncPlan"
        },
        "MaxRetrySeconds": {
          "Ref": "MaxRetrySeconds"
        },
        "HostUuid": {
          "Ref": "HostUuid"
        },
        "FullPlan": {
          "Ref": "FullPlan"
        },
        "DbPlanName": {
          "Ref": "DbPlanName"
        }
      }
    }
  },
  "Outputs": {
    "Options": {
      "Description": "Backup options in json format, different for each type of database. For Oracle, use {\"channels\":4,\"com
pression\":\"lzop\",\"offline_backup\":false,\"archivelog_reserve_hours\":24,\"custom_commands\":\"\"}, \"channels\" means numb
ers of concurrent theads, \"archivelog_reserve_hours\" means how long before the archive log will be deleted after backup job c
ompleted, other paramters should use the default vaule. For Mysql, use {\"channels\":4,\"compression\":\"lzop\",\"del_binlog\":
false}, \"del_binlog\" means whether the binlog will be deleted after backup completed, only take effect for log or continuous
backup. For SQL Server, use {\\\"channels\\\":4,\\\"verify\\\":false,\\\"compression\\\":\\\"lzop\\\",\\\"backup_new_databases\
\\":false}.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "Options"
        ]
      }
    },
    "InstanceUuid": {
      "Description": "Uuid of database instance.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "InstanceUuid"
        ]
      }
    },
    "CumulativeUuid": {
      "Description": "Uuid of cumulative plan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "CumulativeUuid"
        ]
      }
    },
    "SourceType": {
      "Description": "Database type, allowed value: MySQL, ORACLE, MSSQL",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "SourceType"
        ]
      }
    },
    "PlanId": {
      "Description": "Id of the backup plan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "PlanId"
```

```
        "PlanId"
      ]
    }
  },
  "LogUuid": {
    "Description": "Uuid of the log backup plan.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "LogUuid"
      ]
    }
  },
  "VaultId": {
    "Description": "Vault ID to create backup plan, the backup data will be stored to the vault.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "VaultId"
      ]
    }
  },
  "IncUuid": {
    "Description": "Uuid of the incremental bakcup plan.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "IncUuid"
      ]
    }
  },
  "ContinuousPlan": {
    "Description": "Continuous backup plan schedule. Use {   \"type\": \"continuous\" }.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "ContinuousPlan"
      ]
    }
  },
  "IncPlan": {
    "Description": "Incremental backup plan schedule. Only for mysql and oracle. More details see FullPlan.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "IncPlan"
      ]
    }
  },
  "MaxRetrySeconds": {
    "Description": "Max retry seconds on network failure.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "MaxRetrySeconds"
      ]
    }
  },
  "Target": {
    "Description": "Target vault to backup.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "Target"
      ]
    }
  },
  "HostUuid": {
    "Description": "Uuid of the host of the database instance.",
    "Value": {
      "Fn::GetAtt": [
        "HBRDbPlan",
        "HostUuid"
      ]
    }
```

```
      }
    },
    "ContinuousUuid": {
      "Description": "Uuid of continuous backup plan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "ContinuousUuid"
        ]
      }
    },
    "CumulativePlan": {
      "Description": "Cumulative plan schedule, only for mssql. More details see FullPlan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "CumulativePlan"
        ]
      }
    },
    "FullPlan": {
      "Description": "Full backup plan schedule. daily: {\"type\": \"daily\", \"start\": \"00:00:00\", \"interval\": 3}, weekly
{\"type\":\"weekly\",\"start\": \"03:00:00\",\"days\": [1,2,3,4,5],\"interval\": 1}, days can be 0 - 6, 0 means Sunday, and int
erval can be 1 - 52.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "FullPlan"
        ]
      }
    },
    "LogPlan": {
      "Description": "Log backup plan schedule. More details see FullPlan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "LogPlan"
        ]
      }
    },
    "MaxRateLimit": {
      "Description": "Max rate limit for backup job,",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "MaxRateLimit"
        ]
      }
    },
    "FullUuid": {
      "Description": "Uuid of full backup plan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "FullUuid"
        ]
      }
    },
    "DbPlanName": {
      "Description": "Display name of the backup plan.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbPlan",
          "DbPlanName"
        ]
      }
    }
  }
}
```

39.4. ALIYUN::HBR::DbVault

ALIYUN::HBR::DbVault is used to create a backup vault.

Syntax

```
{
  "Type": "ALIYUN::HBR::DbVault",
  "Properties": {
    "Description": String,
    "VaultName": String,
    "RetentionDays": Integer,
    "VaultRegionId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the backup vault.	None.
VaultName	String	Yes	No	The name of the backup vault.	None.
RetentionDays	Integer	Yes	Yes	The retention period of backup data.	None.
VaultRegionId	String	Yes	No	The region ID of the backup vault.	You must deploy the backup vault in one of the regions where Hybrid Backup Recovery (HBR) is available. For more information, see Supported regions.

Response parameters

Fn::GetAtt

- Description: the description of the backup vault.
- VaultName: the name of the backup vault.
- RetentionDays: the retention period of backup data.
- VaultId: the ID of the backup vault.
- VaultRegionId: the region ID of the backup vault.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VaultName": {
      "Type": "String",
      "Description": "Display name of the vault.",
      "Default": "test"
    },
    "RetentionDays": {
      "Type": "Number",
      "Description": "Data retention days of the vault. Data will be deleted when it's older than this time.",
      "Default": 1
    },
    "VaultRegionId": {
      "Type": "String",
      "Description": "The region ID to create the vault.",
      "Default": "cn-hangzhou"
    }
  },
  "Resources": {
    "HBRDbVault": {
      "Type": "ALIYUN::HBR::DbVault",
      "Properties": {
        "VaultName": {
          "Ref": "VaultName"
        },
        "RetentionDays": {
```

```
          "Ref": "RetentionDays"
        },
        "VaultRegionId": {
          "Ref": "VaultRegionId"
        }
      }
    }
  },
  "Outputs": {
    "Description": {
      "Description": "Description of the vault.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbVault",
          "Description"
        ]
      }
    },
    "VaultName": {
      "Description": "Display name of the vault.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbVault",
          "VaultName"
        ]
      }
    },
    "RetentionDays": {
      "Description": "Data retention days of the vault. Data will be deleted when it's older than this time.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbVault",
          "RetentionDays"
        ]
      }
    },
    "VaultId": {
      "Description": "Vault ID.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbVault",
          "VaultId"
        ]
      }
    },
    "VaultRegionId": {
      "Description": "The region ID to create the vault.",
      "Value": {
        "Fn::GetAtt": [
          "HBRDbVault",
          "VaultRegionId"
        ]
      }
    }
  }
}
```

39.5. ALIYUN::HBR::RestoreJob

ALIYUN::HBR::RestoreJob is used to create a restore job.

Syntax

```
{
  "Type": "ALIYUN::HBR::RestoreJob",
  "Properties": {
    "SnapshotId": String,
    "TargetClientId": String,
    "TargetPath": String,
    "SourceType": String,
    "SourceClientId": String,
    "TargetInstanceId": String,
    "VaultId": String,
    "SourceInstanceId": String,
    "RestoreType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SnapshotId	String	Yes	No	The ID of the snapshot.	None
TargetClientId	String	Yes	No	The ID of the destination client.	This parameter is required if the RestoreType parameter is set to FILE.
TargetPath	String	Yes	No	The path to which backup data is restored.	Example: `/`.
SourceType	String	Yes	No	The type of the source file.	Valid values: • FILE: a file stored in an on-premises machine. • ECS_FILE: a file stored in an ECS instance.
SourceClientId	String	Yes	No	The ID of the source client.	This parameter is required if the SourceType parameter is set to FILE.
TargetInstanceId	String	Yes	No	The ID of the destination ECS instance.	This parameter is required if the RestoreType parameter is set to ECS_FILE.
VaultId	String	Yes	No	The backup vault where the source client is deployed.	None
SourceInstanceId	String	Yes	No	The ID of the source ECS instance.	This parameter is required if the SourceType parameter is set to ECS_FILE.
RestoreType	String	Yes	No	The type of the file after restoration.	Valid values: • FILE: a file stored in an on-premises machine. • ECS_FILE: a file stored in an ECS instance.

Response parameters

Fn::GetAtt

- Status: the status of the restore job.
- SourceType: the type of the source file.
- RestoreId: the ID of the restore job.
- ErrorMessage: the error message for the restore job.
- RestoreType: the type of the file after restoration.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SnapshotId": {
      "Type": "String",
      "Description": "Snapshot ID"
    },
    "TargetClientId": {
      "Type": "String",
      "Description": "Target client ID. It should be provided when RestoreType=FILE."
    },
    "TargetPath": {
      "Type": "String",
      "Description": "Target path. For instance, \"/\"."
    },
    "SourceType": {
      "Type": "String",
      "Description": "Source type",
      "AllowedValues": [
        "FILE",
        "ECS_FILE"
      ]
    },
    "SourceClientId": {
      "Type": "String",
      "Description": "Source client ID. It should be provided when SourceType=FILE."
    },
    "TargetInstanceId": {
      "Type": "String",
      "Description": "Source client ID. It should be provided when RestoreType=ECS_FILE."
    },
    "VaultId": {
      "Type": "String",
      "Description": "Vault ID"
    },
    "SourceInstanceId": {
      "Type": "String",
      "Description": "Source instance ID. It should be provided when SourceType=ECS_FILE."
    },
    "RestoreType": {
      "Type": "String",
      "Description": "Restore type",
      "AllowedValues": [
        "FILE",
        "ECS_FILE"
      ]
    }
  },
  "Resources": {
    "RestoreJob": {
      "Type": "ALIYUN::HBR::RestoreJob",
      "Properties": {
        "SnapshotId": {
          "Ref": "SnapshotId"
        },
        "TargetClientId": {
          "Ref": "TargetClientId"
        },
        "TargetPath": {
          "Ref": "TargetPath"
        },
        "SourceType": {
```

```
          "Ref": "SourceType"
        },
        "SourceClientId": {
          "Ref": "SourceClientId"
        },
        "TargetInstanceId": {
          "Ref": "TargetInstanceId"
        },
        "VaultId": {
          "Ref": "VaultId"
        },
        "SourceInstanceId": {
          "Ref": "SourceInstanceId"
        },
        "RestoreType": {
          "Ref": "RestoreType"
        }
      }
    }
  },
  "Outputs": {
    "Status": {
      "Description": "Restore job status",
      "Value": {
        "Fn::GetAtt": [
          "RestoreJob",
          "Status"
        ]
      }
    },
    "SourceType": {
      "Description": "Source type",
      "Value": {
        "Fn::GetAtt": [
          "RestoreJob",
          "SourceType"
        ]
      }
    },
    "RestoreId": {
      "Description": "Restore job ID",
      "Value": {
        "Fn::GetAtt": [
          "RestoreJob",
          "RestoreId"
        ]
      }
    },
    "ErrorMessage": {
      "Description": "Error message of restore job",
      "Value": {
        "Fn::GetAtt": [
          "RestoreJob",
          "ErrorMessage"
        ]
      }
    },
    "RestoreType": {
      "Description": "Restore type",
      "Value": {
        "Fn::GetAtt": [
          "RestoreJob",
          "RestoreType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
```

```
  SnapshotId:
    Type: String
    Description: Snapshot ID
  TargetClientId:
    Type: String
    Description: Target client ID. It should be provided when RestoreType=FILE.
  TargetPath:
    Type: String
    Description: 'Target path. For instance, "/".'
  SourceType:
    Type: String
    Description: Source type
    AllowedValues:
      - FILE
      - ECS_FILE
  SourceClientId:
    Type: String
    Description: Source client ID. It should be provided when SourceType=FILE.
  TargetInstanceId:
    Type: String
    Description: Source client ID. It should be provided when RestoreType=ECS_FILE.
  VaultId:
    Type: String
    Description: Vault ID
  SourceInstanceId:
    Type: String
    Description: Source instance ID. It should be provided when SourceType=ECS_FILE.
  RestoreType:
    Type: String
    Description: Restore type
    AllowedValues:
      - FILE
      - ECS_FILE
Resources:
  RestoreJob:
    Type: 'ALIYUN::HBR::RestoreJob'
    Properties:
      SnapshotId:
        Ref: SnapshotId
      TargetClientId:
        Ref: TargetClientId
      TargetPath:
        Ref: TargetPath
      SourceType:
        Ref: SourceType
      SourceClientId:
        Ref: SourceClientId
      TargetInstanceId:
        Ref: TargetInstanceId
      VaultId:
        Ref: VaultId
      SourceInstanceId:
        Ref: SourceInstanceId
      RestoreType:
        Ref: RestoreType
Outputs:
  Status:
    Description: Restore job status
    Value:
      'Fn::GetAtt':
        - RestoreJob
        - Status
  SourceType:
    Description: Source type
    Value:
      'Fn::GetAtt':
        - RestoreJob
        - SourceType
  RestoreId:
    Description: Restore job ID
    Value:
      'Fn::GetAtt':
        - RestoreJob
        - RestoreId
```

```
  ErrorMessage:
    Description: Error message of restore job
    Value:
      'Fn::GetAtt':
        - RestoreJob
        - ErrorMessage
  RestoreType:
    Description: Restore type
    Value:
      'Fn::GetAtt':
        - RestoreJob
        - RestoreType
```

40.IOT

40.1. ALIYUN::IOT::Device

ALIYUN::IOT::Device is used to register a Device.

Alibaba Cloud allows you to register devices in the following regions:

- China (Shanghai)
- Singapore (Singapore)
- Japan (Tokyo)
- Germany (Frankfurt)
- US (Silicon Valley)
- US (Virginia)

Syntax

```
{
  "Type": "ALIYUN::IOT::Device",
  "Properties": {
    "DeviceName": String,
    "IotInstanceId": String,
    "ProductKey": String,
    "PinCode": String,
    "DevEui": String,
    "Nickname": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
DeviceName	String	No	Released	The name of the device to be registered. If you do not specify this parameter, the system will randomly generate a device name.	The password must be 4 to 32 characters in length and can contain letters, digits, and the following special characters: `- _@:` DeviceName is used with ProductKey to identify a device.
IotInstanceId	String	No	Released	The ID of the instance.	This parameter is not specified for public instances.
ProductKey	String	Yes	Not supported	The key of the product to which the device to be registered belongs. ProductKey is IoT Platform identifier, which is globally unique for the product. You can view the domain name in the IoT Platform console or call `QueryProductList` view information about all products under the current account.	None

Parameter	Type	Required	Editable	Description	Constraint
PinCode	String	No	Released	The PIN Code of LoRaWAN. It is used to verify the validity of DevEUI.	This parameter must be specified when you create a LoRaWAN device.
DevEui	String	No	Released	DevEUI for LoRaWAN device	This parameter must be specified when you create a LoRaWAN device.
Nickname	String	No	Released	The alias of the device to be registered. If you do not specify this parameter, the system does not generate a alias for the device.	The name must be 4 to 64 characters in length, and can contain uppercase letters, lowercase letters, digits, and underscores (_). Note A Chinese character occupies 2 characters.

Return value

Fn::GetAtt

- DeviceName: Device name.
- NodeType: The node type of the product.
- IotInstanceId: The ID of the instance.
- ProductKey: The ProductKey of the product to which the device belongs.
- NickName: The NickName of the NickName.
- The Guid issued by IotId: IoT Platform to the device.
- ProductName: The name of the product.
- DeviceSecret: Device secret.
- IpAddress: The IP address.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Device": {
      "Type": "ALIYUN::IOT::Device",
      "Properties": {
        "DeviceName": {
          "Ref": "DeviceName"
        },
        "IotInstanceId": {
          "Ref": "IotInstanceId"
        },
        "ProductKey": {
          "Ref": "ProductKey"
        },
        "PinCode": {
          "Ref": "PinCode"
        },
        "DevEui": {
          "Ref": "DevEui"
        },
        "Nickname": {
          "Ref": "Nickname"
        }
      }
    }
  },
  "Parameters": {
```

```
    "DeviceName": {
      "Type": "String",
      "Description": "The name of the device that you want to register. The device name must consist of\n4 to 32 characters, in
cluding English letters, digits, and special characters, for\nexample, hyphens (-), underscores (_), at signs (@), periods (.)
, and colons (:).\nDeviceName is used with ProductKey to identify a specified device.\nNote If you do not specify this paramete
r, the system will generate a name for the device."
    },
    "IotInstanceId": {
      "Type": "String",
      "Description": "Public instance does not pass this parameter; instance that you need to buy the incoming instance ID."
    },
    "ProductKey": {
      "Type": "String",
      "Description": "The identifier of the product to which the device to be registered belongs."
    },
    "PinCode": {
      "Type": "String",
      "Description": "PIN Code LoRaWAN device for checking the legitimacy of DevEUI.\nWhen you create a LoRaWAN devices, this w
ill pass."
    },
    "DevEui": {
      "Type": "String",
      "Description": "DevEUI LoRaWAN equipment.\nWhen you create a LoRaWAN devices, this will pass."
    },
    "Nickname": {
      "Type": "String",
      "Description": "Add a nickname for the device. A nickname can be 4-64 characters in length, and can\ncontain Chinese char
acters, English letters, numbers and underscores (_). A Chinese\ncharacter counts as two characters."
    }
  },
  "Outputs": {
    "DeviceName": {
      "Description": "Device name.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "DeviceName"
        ]
      }
    },
    "NodeType": {
      "Description": "Node type.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "NodeType"
        ]
      }
    },
    "IotInstanceId": {
      "Description": "IOT instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "IotInstanceId"
        ]
      }
    },
    "ProductKey": {
      "Description": "Product key.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "ProductKey"
        ]
      }
    },
    "IpAddress": {
      "Description": "IP address.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "IpAddress"
        ]
```

```
      }
    },
    "DeviceSecret": {
      "Description": "Device key.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "DeviceSecret"
        ]
      }
    },
    "ProductName": {
      "Description": "Product name.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "ProductName"
        ]
      }
    },
    "IotId": {
      "Description": "Things internet device ID issued for the device, as the unique identifier of the device.\nDescription Kee
p, do not leak.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "IotId"
        ]
      }
    },
    "NickName": {
      "Description": "Nick name.",
      "Value": {
        "Fn::GetAtt": [
          "Device",
          "NickName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Device:
    Type: 'ALIYUN::IOT::Device'
    Properties:
      DeviceName:
        Ref: DeviceName
      IotInstanceId:
        Ref: IotInstanceId
      ProductKey:
        Ref: ProductKey
      PinCode:
        Ref: PinCode
      DevEui:
        Ref: DevEui
      Nickname:
        Ref: Nickname
Parameters:
  DeviceName:
    Type: String
    Description: >-
      The name of the device that you want to register. The device name must
      consist of
      4 to 32 characters, including English letters, digits, and special
      characters, for
      example, hyphens (-), underscores (_), at signs (@), periods (.) , and
      colons (:).
      DeviceName is used with ProductKey to identify a specified device.
      Note If you do not specify this parameter and the system will generate a name
      for the device.
```

```
  IotInstanceId:
    Type: String
    Description: >-
      Public instance does not pass this parameter; instance that you need to
      buy the incoming instance ID.
  ProductKey:
    Type: String
    Description: >-
      The identifier of the product to which the device to be registered
      belongs.
  PinCode:
    Type: String
    Description: |-
      PIN Code LoRaWAN device for checking the legitimacy of DevEUI.
      When you create a LoRaWAN devices, this will pass.
  DevEui:
    Type: String
    Description: |-
      DevEUI LoRaWAN equipment.
      When you create a LoRaWAN devices, this will pass.
  Nickname:
    Type: String
    Description: >-
      Add a nickname for the device. A nickname can be 4-64 characters in
      length, and can
      contain Chinese characters, English letters, numbers and underscores (_).
      A Chinese
      character counts as two characters.
Outputs:
  DeviceName:
    Description: Device name.
    Value:
      'Fn::GetAtt':
        -Device
        -DeviceName
  NodeType:
    Description: Node type.
    Value:
      'Fn::GetAtt':
        -Device
        -NodeType
  IotInstanceId:
    Description: IOT instance ID.
    Value:
      'Fn::GetAtt':
        -Device
        -IotInstanceId
  ProductKey:
    Description: Product key.
    Value:
      'Fn::GetAtt':
        -Device
        -ProductKey
  IpAddress:
    Description: IP address.
    Value:
      'Fn::GetAtt':
        -Device
        -IpAddress
  DeviceSecret:
    Description: Device key.
    Value:
      'Fn::GetAtt':
        -Device
        -DeviceSecret
  ProductName:
    Description: Product name.
    Value:
      'Fn::GetAtt':
        -Device
        -ProductName
  IotId:
    Description: >-
      Things internet device ID issued for the device and as the unique identifier
```

```
      of the device.
      Description Keep, do not leak.
    Value:
      'Fn::GetAtt':
        -Device
        -IotId
  NickName:
    Description: Nick name.
    Value:
      'Fn::GetAtt':
        -Device
        -NickName
```

40.2. ALIYUN::IOT::DeviceGroup

ALIYUN::IOT::DeviceGroup is used to create a group.

You can create a group in the following regions:

- Shanghai
- Singapore (Singapore)
- Japan (Tokyo)
- Germany (Frankfurt)
- US (Silicon Valley)
- US (Virginia)

Syntax

```
{
  "Type": "ALIYUN::IOT::DeviceGroup",
  "Properties": {
    "SuperGroupId": String,
    "GroupName": String,
    "GroupDesc": String,
    "IotInstanceId": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
SuperGroupId	String	No	Released	The ID of the parent group. To create a level -1 group, do not specify this parameter.	None
GroupName	String	Yes	Not supported	The name of a device group.	The name must be 4 to 30 characters in length, and can contain Chinese characters, uppercase letters, lowercase letters, digits, and underscores (_). **Note** A Chinese character occupies two characters.

Parameter	Type	Required	Editable	Description	Constraint
GroupDesc	String	Not supported	Supported	The description of the API group.	The length cannot exceed 100 characters. Note A Chinese character occupies two characters.
IotInstanceId	String	No	Released	The ID of the instance.	This parameter is not required for public instances.

Return value

Fn::GetAtt

- GroupId: The group ID, which is the globally unique identifier generated by the system for the group.
- IotInstanceId: The ID of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DeviceGroup": {
      "Type": "ALIYUN::IOT::DeviceGroup",
      "Properties": {
        "IotInstanceId": {
          "Ref": "IotInstanceId"
        },
        "SuperGroupId": {
          "Ref": "SuperGroupId"
        },
        "GroupDesc": {
          "Ref": "GroupDesc"
        },
        "GroupName": {
          "Ref": "GroupName"
        }
      }
    }
  },
  "Parameters": {
    "IotInstanceId": {
      "Type": "String",
      "Description": "Public instance does not pass this parameter; instance that you need to buy the incoming instance ID."
    },
    "SuperGroupId": {
      "Type": "String",
      "Description": "The ID of the parent group.\nIf you want to create a first-level group, do not enter this parameter."
    },
    "GroupDesc": {
      "Type": "String",
      "Description": "The description of the group. You can enter a description with up to 100 characters."
    },
    "GroupName": {
      "Type": "String",
      "Description": "The name of the group. The name can contain Chinese characters, English letters, digits, and underscores
(_). The length must be 4 to 30 characters (a Chinese character counts as two characters)."
    }
  },
  "Outputs": {
    "GroupId": {
      "Description": "Packet, ID, System for the globally unique identifier generated packet.",
      "Value": {
        "Fn::GetAtt": [
          "DeviceGroup",
          "GroupId"
        ]
      }
    },
    "IotInstanceId": {
      "Description": "IOT instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "DeviceGroup",
          "IotInstanceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DeviceGroup:
    Type: 'ALIYUN::IOT::DeviceGroup'
    Properties:
      IotInstanceId:
        Ref: IotInstanceId
      SuperGroupId:
        Ref: SuperGroupId
      GroupDesc:
        Ref: GroupDesc
      GroupName:
        Ref: GroupName
Parameters:
  IotInstanceId:
    Type: String
    Description: >-
      Public instance does not pass this parameter; instance that you need to
      buy the incoming instance ID.
  SuperGroupId:
    Type: String
    Description: |-
      The ID of the parent group.
      If you want to create a first-level group, do not enter this parameter.
  GroupDesc:
    Type: String
    Description: >-
      The description of the group. You can enter a description with up to 100
      characters.
  GroupName:
    Type: String
    Description: >-
      The name of the group. The name can contain Chinese characters, English
      letters, digits, and underscores (_). The length must be 4 to 30
      characters (a Chinese character counts as two characters).
Outputs:
  GroupId:
    Description: 'Packet, ID, System for the globally unique identifier generated packet.'
    Value:
      'Fn::GetAtt':
        -DeviceGroup
        -GroupId
  IotInstanceId:
    Description: IOT instance ID.
    Value:
      'Fn::GetAtt':
        -DeviceGroup
        -IotInstanceId
```

40.3. ALIYUN::IOT::Product

ALIYUN::IOT::Product is used to create a product.

You can create products in the following regions:

- Shanghai
- Singapore (Singapore)
- Japan (Tokyo)
- Germany (Frankfurt)
- US (Silicon Valley)
- US (Virginia)

Syntax

```
{
  "Type": "ALIYUN::IOT::Product",
  "Properties": {
    "AuthType": String,
    "NodeType": Integer,
    "Description": String,
    "CategoryKey": String,
    "IotInstanceId": String,
    "ProtocolType": String,
    "PublishAuto": Boolean,
    "Id2": Boolean,
    "ProductName": String,
    "ResourceGroupId": String,
    "DataFormat": Integer,
    "AliyunCommodityCode": String,
    "JoinPermissionId": String,
    "NetType": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
AuthType	String	No	Released	The type of authentication for devices of a product to access IoT Platform.	Valid values: • secret: The device secret is used for device authentication. • id2: Uses the id² of the IoT device for identity authentication. • x509: Use the device X.509 certificate for device authentication.
NodeType	Integer	Yes	Not supported	The node type of the product.	This parameter is only available for AliyunCommodityCode=iothub_senior. Valid values: • 0: Device. A device cannot be mounted with sub-devices. You can connect a IoT Platform to IoT platform either directly or as a sub-device of a gateway IoT Platform. • 1: Gateway. A gateway can be mounted with sub-devices. It can manage sub-devices, maintain the topological relationships with sub-devices, and synchronize the topological relationships to IoT Platform.
Description	String	Not supported	Supported	Product description information	None

Parameter	Type	Required	Editable	Description	Constraint
CategoryKey	String	No	Released	The identifier of the product category.	If you specify this parameter, the created product will use the TSL of the specified category. If you do not specify this parameter, the standard TSL of any category will not be used.
IotInstanceId	String	No	Released	The ID of the instance.	This parameter is not required for public instances.
ProtocolType	String	No	Released	The protocol type when the device is connected to the Gateway.	If you want to connect devices of a AliyunCommodityCode=iothub_senior to IoT Platform through a gateway, you must specify this parameter. Valid values: • modbus: Modbus Protocol • opc-ua: OPC UA protocol • customize: customize a protocol • ble: BLE. • zigbee: ZigBee protocol
PublishAuto	Boolean	Erased	Released	Indicates whether to automatically publish the TSL after the product is created.	Valid values: • true (default) • false
Id2	Boolean	Erased	Released	Whether to use id² authentication	Valid values: • true • false (default) The id² authentication is only supported in the China (Shanghai) region. If you set the AuthType parameter to true but set the AuthType parameter to id2, Oss uses the AuthType parameter.
ProductName	String	Yes	Yes	Product Name	The name must be 4 to 30 characters in length, and can contain Chinese characters, uppercase letters, lowercase letters, digits, and underscores (_). Note One Chinese character accounts for two.

Parameter	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group.	None
DataFormat	Integer	Erased	Released	Product Type data format	This parameter is only available for AliyunCommodityCode=iothub_senior. Valid values: • 0: Do not parse /custom (CUSTOM_FORMAT) • 1: Alink protocol (ALINK_FORMAT)
AliyunCommodityCode	String	No	Released	Product type	Valid values: • iothub_senior: Uses the TSL model. • iothub: Without the TSL model
JoinPermissionId	String	No	Released	LoRaWAN ingress credential ID	Network connection method `NetType` if you set the parameter to LORA, this parameter is required.
NetType	String	No	Released	Network Connection Method	If you are using a AliyunCommodityCode=iothub_senior and the devices of this product are gateways or the devices not connected to gateways, you must specify this parameter. Valid values: • WIFI (default): WiFi • CELLULAR • ETHERNET • LORA: LoRaWAN • OTHER

Return value

Fn::GetAtt

- ProductKey: The product identifier.
- IotInstanceId: The ID of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Product": {
      "Type": "ALIYUN::IOT::Product",
      "Properties": {
        "AuthType": {
          "Ref": "AuthType"
        },
        "NodeType": {
          "Ref": "NodeType"
        },
```

```
        "Description": {
          "Ref": "Description"
        },
        "CategoryKey": {
          "Ref": "CategoryKey"
        },
        "IotInstanceId": {
          "Ref": "IotInstanceId"
        },
        "ProtocolType": {
          "Ref": "ProtocolType"
        },
        "PublishAuto": {
          "Ref": "PublishAuto"
        },
        "Id2": {
          "Ref": "Id2"
        },
        "ProductName": {
          "Ref": "ProductName"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "DataFormat": {
          "Ref": "DataFormat"
        },
        "AliyunCommodityCode": {
          "Ref": "AliyunCommodityCode"
        },
        "JoinPermissionId": {
          "Ref": "JoinPermissionId"
        },
        "NetType": {
          "Ref": "NetType"
        }
      }
    }
  },
  "Parameters": {
    "AuthType": {
      "Type": "String",
      "Description": "Authentication device to access the Internet of Things platform under the product. Optional:\nsecret: usi
ng a device key for device authentication.\nDetails can be found MQTT-TCP connection communication.\nid2: Use things device aut
hentication ID.\nx509: X.509 certificates using the device for device authentication.\nThe use of X.509 certificates device sid
e configuration instructions, see Using X.509 certificate authentication.\nIf this parameter is passed, the default value is se
cret."
    },
    "NodeType": {
      "Type": "Number",
      "Description": "The node type of the product. Values:\n0: Device. A device cannot be mounted with sub-devices. It can con
nect to IoT Platform\neither directly or as a sub-device of a gateway.\n1: Gateway. A gateway can be mounted with sub-devices.
It can manage sub-devices, maintain\nthe topological relationships with sub-devices, and synchronize the topological relationsh
ips\nto IoT Platform.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "A description of the product. The description can be a maximum of 100 characters in\nlength."
    },
    "CategoryKey": {
      "Type": "String",
      "Description": "Identifier Product category. If you pass this parameter, the product will be created using the object mod
el specified category; not passed, the standard model is not used in any category.\nCall ListThingTemplates, view of things pla
tform predefined category information from the returned results, get the value of CategoryKey."
    },
    "IotInstanceId": {
      "Type": "String",
      "Description": "Public instance does not pass this parameter; instance that you need to buy the incoming instance ID."
    },
    "ProtocolType": {
```

```
      "Type": "String",
      "Description": "The protocol that devices of this product use to connect to gateways.\nSet this parameter only if you are
creating a product whose devices will be connected\nto gateways.\nOptions:\nmodbus: Modbus.\nopc-ua: OPC UA.\ncustomize: Custom
ized protocol.\nble: BLE.\nzigbee: ZigBee.",
      "AllowedValues": [
        "ble",
        "customize",
        "modbus",
        "opc-ua",
        "zigbee"
      ]
    },
    "PublishAuto": {
      "Type": "Boolean",
      "Description": "Whether to automatically model publication after the product is created.\ntrue: publishing.\nfalse: not r
eleased.\nThis parameter is not passed, the default value true.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Id2": {
      "Type": "Boolean",
      "Description": "Whether ID2 certification.\nOptional values:\ntrue: the opening of ID2 certification.\nfalse: do not open
ID2 certification.\nDo not pass this parameter, the default is not opened.\nExplanation\nOnly 2 East China (Shanghai) regional
support ID2 authentication.\nIf this parameter value is set to true, but passed AuthType parameter value is not id2, the system
will AuthType parameter values prevail.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "ProductName": {
      "Type": "String",
      "Description": "The name of the product. A product name can be 4 to 30 characters in length and can\ncontain Chinese char
acters, English letters, digits, and underscores (_).\nNote A product name must be unique in an account."
    },
    "ResourceGroupId":"",
      "Type": "String",
      "Description": "Resource group ID (group ID to view the resource in the resource management console), specify the product
is classified as a resource group.\nIf this parameter is passed, the product will be classified as a default resource group."
    },
    "DataFormat": {
      "Type": "Number",
      "Description": "You must specify this parameter if the value of AliyunCommodityCode is iothub_senior.\nThis parameter is
only available and required when you create a Pro Edition product.\nOptions:\n0: Do not parse/Custom.\n1: Alink JSON.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "AliyunCommodityCode": {
      "Type": "String",
      "Description": "The edition of the product that you want to create. There are two options:\niothub_senior: Pro Edition.\n
iothub: Basic Edition.\nIf you do not input this parameter, the default value is used, which is iothub (Basic\nEdition)."
    },
    "JoinPermissionId": {
      "Type": "String",
      "Description": "LoRaWAN network credential ID. When networking mode NetType chosen LORA, the necessary parameters.\nPleas
e call QueryLoRaJoinPermissions query JoinPermissionId network credentials LoRaWAN under your account.\nIf you do not LoRaWAN n
etwork credentials, visit the network management platform to create things together."
    },
    "NetType": {
      "Type": "String",
      "Description": "Networking mode.\nSet this parameter only if you are creating a product whose devices directly connect\nt
o IoT Platform.\nOptions:\nWIFI\nCELLULAR\nETHERNET\nOTHER\nThe default value is WIFI.",
      "AllowedValues": [
        "CELLULAR",
        "ETHERNET",
        "LORA",
```

```
        "OTHER",
        "WIFI"
      ]
    }
  },
  "Outputs": {
    "ProductKey": {
      "Description": "The globally unique identifier of the product issued by IoT Platform.",
      "Value": {
        "Fn::GetAtt": [
          "Product",
          "ProductKey"
        ]
      }
    },
    "IotInstanceId": {
      "Description": "IOT instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "Product",
          "IotInstanceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Product:
    Type: 'ALIYUN::IOT::Product'
    Properties:
      AuthType:
        Ref: AuthType
      NodeType:
        Ref: NodeType
      Description:
        Ref: Description
      CategoryKey:
        Ref: CategoryKey
      IotInstanceId:
        Ref: IotInstanceId
      ProtocolType:
        Ref: ProtocolType
      PublishAuto:
        Ref: PublishAuto
      Id2:
        Ref: Id2
      ProductName:
        Ref: ProductName
      ResourceGroupId:
        Ref: ResourceGroupId
      DataFormat:
        Ref: DataFormat
      AliyunCommodityCode:
        Ref: AliyunCommodityCode
      JoinPermissionId:
        Ref: JoinPermissionId
      NetType:
        Ref: NetType
Parameters:
  AuthType:
    Type: String
    Description: >-
      Authentication device to access the Internet of Things platform under the
      product. Optional:
      secret: using a device key for device authentication.
      Details can be found MQTT-TCP connection communication.
      id2: Use things device authentication ID.
      x509: X.509 certificates using the device for device authentication.
      The use of X.509 certificates device side configuration instructions, see
      Using X.509 certificate authentication.
```

```
    If this parameter is passed, the default value is secret.
  NodeType:
    Type: Number
    Description: >-
      The node type of the product. Values:
      0: Device. A device cannot be mounted with sub-devices. It can connect to
      IoT Platform
      either directly or as a sub-device of a gateway.
      1: Gateway. A gateway can be mounted with sub-devices. It can manage
      sub-devices, maintain
      the topological relationships with sub-devices and and synchronize the
      topological relationships
      to IoT Platform.
    AllowedValues:
      -0
      - 1
  Description:
    Type: String
    Description: >-
      A description of the product. The description can be a maximum of 100
      characters in
      length.
  CategoryKey:
    Type: String
    Description: >-
      Identifier Product category. If you pass this parameter and the product will
      be created using the object model specified category; not passed, the
      standard model is not used in any category.
      Call ListThingTemplates, view of things platform predefined category
      information from the returned results, get the value of CategoryKey.
  IotInstanceId:
    Type: String
    Description: >-
      Public instance does not pass this parameter; instance that you need to
      buy the incoming instance ID.
  ProtocolType:
    Type: String
    Description: >-
      The protocol that devices of this product use to connect to gateways.
      Set this parameter only if you are creating a product whose devices will
      be connected
      to gateways.
      Options:
      modbus: Modbus.
      opc-ua: OPC UA.
      customize: Customized protocol.
      ble: BLE.
      zigbee: ZigBee.
    AllowedValues:
      -ble
      -customize
      -modbus
      -opc-ua
      -zigbee
  PublishAuto:
    Type: Boolean
    Description: |-
      Whether to automatically model publication after the product is created.
      true: publishing.
      false: not released.
      This parameter is not passed, the default value true.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Id2:
    Type: Boolean
    Description: >-
      Whether ID2 certification.
      Optional values:
      true: the opening of ID2 certification.
      false: do not open ID2 certification.
      Do not pass this parameter, the default is not opened.
```

```
    Explanation
    Only 2 East China (Shanghai) regional support ID2 authentication.
    If this parameter value is set to true and but passed AuthType parameter
    value is not id2, the system will AuthType parameter values prevail.
  AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
ProductName:
  Type: String
  Description: >-
    The name of the product. A product name can be 4 to 30 characters in
    length and can
    contain Chinese characters, English letters, digits, and underscores (_).
    Note A product name must be unique in an account.
ResourceGroupId:
  Type: String
  Description: >-
    Resource group ID (group ID to view the resource in the resource
    management console), specify the product is classified as a resource
    group.
    If this parameter is passed and the product will be classified as a default
    resource group.
DataFormat:
  Type: Number
  Description: >-
    You must specify this parameter if the value of AliyunCommodityCode is
    iothub_senior.
    This parameter is only available and required when you create a Pro
    Edition product.
    Options:
    0: Do not parse/Custom.
    1: Alink JSON.
  AllowedValues:
    -0
    - 1
AliyunCommodityCode:
  Type: String
  Description: >-
    The edition of the product that you want to create. There are two options:
    iothub_senior: Pro Edition.
    iothub: Basic Edition.
    If you do not input this parameter, the default value is used, which is
    iothub (Basic
    Edition).
JoinPermissionId:
  Type: String
  Description: >-
    LoRaWAN network credential ID. When networking mode NetType chosen LORA,
    the necessary parameters.
    Please call QueryLoRaJoinPermissions query JoinPermissionId network
    credentials LoRaWAN under your account.
    If you do not LoRaWAN network credentials and visit the network management
    platform to create things together.
NetType:
  Type: String
  Description: >-
    Networking mode.
    Set this parameter only if you are creating a product whose devices
    directly connect
    to IoT Platform.
    Options:
    Wi-Fi
    CELLULAR
    ETHERNET
    OTHER
    The default value is WIFI.
  AllowedValues:
    -CELLULAR
    -ETHERNET
    -LORA
    -OTHER
    -WIFI
```

```
Outputs:
  ProductKey:
    Description: The globally unique identifier of the product issued by IoT Platform.
    Value:
      'Fn::GetAtt':
        -Product
        -ProductKey
  IotInstanceId:
    Description: IOT instance ID.
    Value:
      'Fn::GetAtt':
        -Product
        -IotInstanceId
```

40.4. ALIYUN::IOT::ProductTopic

ALIYUN::IOT::ProductTopic is used to create a topic category for a specified product.

Syntax

```
{
  "Type": "ALIYUN::IOT::ProductTopic",
  "Properties": {
    "Desc": String,
    "IotInstanceId": String,
    "TopicShortName": String,
    "Operation": String,
    "ProductKey": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Desc	String	No	Yes	The description of the topic category.	The description can be up to 100 characters in length.
IotInstanceId	String	No	No	The ID of the instance.	This parameter is required for Enterprise Edition instances, but not required for public instances.
TopicShortName	String	Yes	Yes	The custom category hierarchy in the topic category.	By default, a topic category contains the following system-defined category hierarchies: `_productKey_` and `_deviceName_`. Separate the hierarchies with forward slashes (/). Format of a topic category: `productKey/deviceName/topicShortName`. The name of each category hierarchy can contain only letters, digits, and underscores (_), and cannot be empty.
Operation	String	Yes	Yes	The operation permissions of devices on the topic category.	Valid values: • SUB: subscribe • PUB: publish • ALL: publish and subscribe
ProductKey	String	Yes	No	The unique identifier of the product for which you want to create a topic category.	None

Response parameters

Fn::GetAtt

TopicId: the ID of the topic category.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Desc": {
      "Type": "String",
      "Description": "The description of the topic category. You can enter a description with up to 100 characters.",
      "MaxLength": 100
    },
    "IotInstanceId": {
      "Type": "String",
      "Description": "Instance ID you purchased. Public instances do not need pass this property."
    },
    "TopicShortName": {
      "Type": "String",
      "Description": "The custom category hierarchy in the topic category. By default, a topic category contains two system def
ined category hierarchies: productKey and ${deviceName}. Forward slashes (/) are used to delimit the topic hierarchies. The for
mat of a topic category is productKey/${deviceName}/topicShortName.\nNote The name of each category hierarchy can contain Engli
sh letters, digits, and underscores (_), and cannot be empty."
    },
    "Operation": {
      "Type": "String",
      "Description": "Operation permissions of devices on the topic category. Value options:\nSUB: Subscribe. Devices can subsc
ribe to the topics of this category.\nPUB: Publish. Devices can publish messages using the topics of this category.\nALL: Subsc
ribe and publish. Devices can subscribe to and publish messages to the topics of this category.",
      "AllowedValues": [
        "ALL",
        "PUB",
        "SUB"
      ]
    },
    "ProductKey": {
      "Type": "String",
      "Description": "The unique identifier of the product for which you want to create a topic category."
    }
  },
  "Resources": {
    "ProductTopic": {
      "Type": "ALIYUN::IOT::ProductTopic",
      "Properties": {
        "Desc": {
          "Ref": "Desc"
        },
        "IotInstanceId": {
          "Ref": "IotInstanceId"
        },
        "TopicShortName": {
          "Ref": "TopicShortName"
        },
        "Operation": {
          "Ref": "Operation"
        },
        "ProductKey": {
          "Ref": "ProductKey"
        }
      }
    }
  },
  "Outputs": {
    "TopicId": {
      "Description": "Topic ID",
      "Value": {
        "Fn::GetAtt": [
          "ProductTopic",
          "TopicId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Desc:
    Type: String
    Description: >-
      The description of the topic category. You can enter a description with up
      to 100 characters.
    MaxLength: 100
  IotInstanceId:
    Type: String
    Description: >-
      Instance ID you purchased. Public instances do not need pass this
      property.
  TopicShortName:
    Type: String
    Description: >-
      The custom category hierarchy in the topic category. By default, a topic
      category contains two system defined category hierarchies: productKey and
      ${deviceName}. Forward slashes (/) are used to delimit the topic
      hierarchies. The format of a topic category is
      productKey/${deviceName}/topicShortName.
      Note The name of each category hierarchy can contain English letters,
      digits, and underscores (_), and cannot be empty.
  Operation:
    Type: String
    Description: >-
      Operation permissions of devices on the topic category. Value options:
      SUB: Subscribe. Devices can subscribe to the topics of this category.
      PUB: Publish. Devices can publish messages using the topics of this
      category.
      ALL: Subscribe and publish. Devices can subscribe to and publish messages
      to the topics of this category.
    AllowedValues:
      - ALL
      - PUB
      - SUB
  ProductKey:
    Type: String
    Description: >-
      The unique identifier of the product for which you want to create a topic
      category.
Resources:
  ProductTopic:
    Type: 'ALIYUN::IOT::ProductTopic'
    Properties:
      Desc:
        Ref: Desc
      IotInstanceId:
        Ref: IotInstanceId
      TopicShortName:
        Ref: TopicShortName
      Operation:
        Ref: Operation
      ProductKey:
        Ref: ProductKey
Outputs:
  TopicId:
    Description: Topic ID
    Value:
      'Fn::GetAtt':
        - ProductTopic
        - TopicId
```

40.5. ALIYUN::IOT::Rule

ALIYUN::IOT::Rule is used to create a rule for a specific topic.

Syntax

```
{
  "Type": "ALIYUN::IOT::Rule",
  "Properties": {
    "TopicType": Integer,
    "IotInstanceId": String,
    "ResourceGroupId": String,
    "ShortTopic": String,
    "Select": String,
    "DataType": String,
    "RuleDesc": String,
    "Where": String,
    "ProductKey": String,
    "RuleAction": List,
    "StartRule": Boolean,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TopicType	Integer	No	Yes	The type of the topic.	Valid values: • 0: the Thing Specification Language (TSL)-based communication topic or the basic communication topic specified in the ShortTopic parameter, such as the topic used to submit the status of OTA update batches. • 1: the custom topic. • 2: the topic that is used to submit device status changes. Format: `/as/mqtt/status/${productKey}/${deviceName}`.
IotInstanceId	String	No	No	The ID of the instance.	This parameter is required for Enterprise Edition instances, but not required for public instances.
ResourceGroupId	String	No	No	The ID of the resource group.	None
ShortTopic	String	No	Yes	The topic to which the rule is applied.	Format: `${deviceName}/topicShortName`. `${deviceName}` indicates the name of the device, and `topicShortName` indicates the custom name of the topic.
Select	String	No	Yes	The SQL SELECT statement that you want to execute. For more information, see SQL statements.	Set this parameter to the content that follows the SELECT keyword. For example, if the SELECT statement is `SELECT a,b,c`, set this parameter to `a,b,c`.
DataType	String	No	No	The format of the data to be processed by the rule. The value of this parameter must be the same as the format of the device data to be processed.	Default value: JSON. Valid values: • JSON • BINARY **Note** If you set this parameter to BINARY, you cannot set the TopicType parameter to 0 or forward data to the time series data storage in the instance, Time Series Database (TSDB), Tablestore, or ApsaraDB RDS.

Property	Type	Required	Editable	Description	Constraint
RuleDesc	String	No	Yes	The description of the rule.	The description can be up to 100 characters in length.
Where	String	No	Yes	The condition that is used to trigger the rule. For more information, see SQL statements.	Set this parameter to the content that follows the WHERE keyword. For example, if the WHERE statement is `WHERE a>10`, set this parameter to `a>10`.
ProductKey	String	No	No	The unique identifier of the product to which the rule applies.	None
RuleAction	List	No	Yes	The rule action.	For more information, see RuleAction properties.
StartRule	Boolean	No	Yes	Specifies whether to enable the rule.	Valid values: • true • false
Name	String	Yes	Yes	The name of the rule.	The name must be 1 to 30 bytes in length and can contain letters, digits, hyphens (-), and underscores (_).

RuleAction syntax

```
"RuleAction": [
  {
    "ErrorActionFlag": String,
    "Configuration": String,
    "Type": String
  }
]
```

RuleAction properties

Property	Type	Required	Editable	Description	Constraint
ErrorActionFlag	String	No	No	Specifies whether the rule action is to forward error operation data. Error operation data is generated when the rules engine failed to forward data from the IoT Platform topic to the destination cloud service. A data forwarding failure indicates that forwarding retries also fail.	Valid values: • true • false
Configuration	String	Yes	No	The configurations of the rule action. Set the value to a JSON string.	For more information, see CreateRuleAction.
Type	String	Yes	No	The type of the rule action.	For more information, see CreateRuleAction.

Response parameters

Fn::GetAtt

- RuleId: the ID of the rule.
- ActionId: the ID of the rule action.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TopicType": {
      "Type": "Number",
      "Description": "0: The topic is a basic communication topic or TSL-based communication topic.\n1: The topic is a custom t
opic.\n2: The topic is used to submit device status changes. Syntax: /as/mqtt/status/${productKey}/${deviceName}."
    },
    "IotInstanceId": {
      "Type": "String",
      "Description": "The ID of the instance. This parameter is not required for public instances. However,\nthe parameter is r
equired for the instances that you have purchased."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group to which the rule is assigned. You can view the resource\ngroup information
in the Resource Management console.\nIf you do not specify this parameter, the rule is assigned to the default resource\ngroup.
"
    },
    "RuleAction": {
      "Type": "Json",
      "Description": "",
      "MinLength": 1,
      "MaxLength": 10
    },
    "ShortTopic": {
      "Type": "String",
      "Description": "The topic to which this rule is applied. Syntax: ${deviceName}/topicShortName. ${deviceName}specifies the
name of the device, and topicShortNamespecifies the custom name of the topic.\nBasic communication topics or Thing Specificatio
n Language (TSL)-based communication\ntopics. Syntax: ${deviceName}/topicShortName. You can replace ${deviceName} with the + wi
ldcard. The wildcard indicates that the topic applies to all devices under the\nproduct. Valid values of topicShortName:\n/thin
g/event/property/post: submits the property data of a device.\n/thing/event/${tsl.event.identifier}/post: submits the event dat
a of a device.${tsl.event.identifier} specifies the identifier of an event in the TSL.\n/thing/lifecycle: submits device lifecy
cle changes.\n/thing/downlink/reply/message: sends a response to a request from IoT Platform.\n/thing/list/found: submits the d
ata when a gateway detects a new sub-device.\n/thing/topo/lifecycle: submits device topology changes.\n/thing/event/property/hi
story/post: submits historical property data of a device.\n/thing/event/${tsl.event.identifier}/post: submits the historical ev
ent data of a device.${tsl.event.identifier}specifies the identifier of an event in the TSL.\n/ota/upgrade: submits OTA update
status.\n/ota/version/post: submits OTA module versions.\n/thing/deviceinfo/update: submits device tag changes.\n/edge/driver/$
{driver_id}/point_post: submits pass-through data from Link IoT Edge.${driver_id} specifies the ID of the driver that a device
uses to access Link IoT Edge.\n${packageId}/${jobId}/ota/job/status: submits the status of OTA update batches. This topic is a
basic communication topic.\n${packageId}specifies the ID of the firmware. ${jobId}specifies the ID of the update batch.\nCustom
topics. Example:${deviceName}/user/get.\nYou can call theQueryProductTopicoperation to view all custom topics of the product.\n
When you specify a custom topic, you can use the + and # wildcards.\nYou can replace ${deviceName} with the+ wildcard. The wild
card indicates that the topic applies to all devices under the\nproduct.\nYou can replace the fields that follow ${deviceName}
with /user/#. The # wildcard indicates that the topic applies whatever values are specified for the fields that\nfollow/user.\n
For more information about how to use wildcards, see Wildcards in topics.\nTopic that is used to submit device status changes:
${deviceName}.\nYou can use the+wildcard. In this case, the status changes of all devices under the product are submitted."
    },
    "Select": {
      "Type": "String",
      "Description": "The SQL SELECT statement that you want to execute. For more information, seeSQL expressions.\nNote Specif
y the fields that follow the Select keyword for this parameter. For example, if the Select statement is Select a,b,c, specify a
,b,c for this parameter."
    },
    "StartRule": {
      "Type": "Boolean",
      "Description": "Start the rule. The rule at least contains one rule action with normal data forward. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "DataType": {
      "Type": "String",
      "Description": "The format of the data to be processed by the rule. You must specify the format of\ndevice data to be pro
cessed for this parameter. Valid values:\nJSON: JSON data\nBINARY: binary data\nNote If you specifyBINARY, you cannot set the T
opicType parameter to 0 and forward data to Table Store, Time Series Database (TSDB), or ApsaradDB\nfor RDS.\nDefault value: JS
ON.",
```

```
      "AllowedValues": [
        "BINARY",
        "JSON"
      ]
    },
    "RuleDesc": {
      "Type": "String",
      "Description": "The description of the rule. The description can be up to 100 characters in length.\nEach Chinese symbol
occupies 1 characters."
    },
    "Where": {
      "Type": "String",
      "Description": "The condition that is used to trigger the rule. For more information, seeSQL expressions.\nNote Specify t
he fields that follow theWherekeyword for this parameter. For example, if the Where statement is Where a>10, specify a>10 for t
his parameter."
    },
    "ProductKey": {
      "Type": "String",
      "Description": "The ProductKey of the product to which the rule applies."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the rule. The name must be 1 to 30 characters in length and can contain\nEnglish letters, dig
its, underscores (_), and hyphens (-). Chinese language is also\nsupported. Each Chinese symbol occupies 2 characters."
    }
  },
  "Resources": {
    "Rule": {
      "Type": "ALIYUN::IOT::Rule",
      "Properties": {
        "TopicType": {
          "Ref": "TopicType"
        },
        "IotInstanceId": {
          "Ref": "IotInstanceId"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "RuleAction": {
          "Ref": "RuleAction"
        },
        "ShortTopic": {
          "Ref": "ShortTopic"
        },
        "Select": {
          "Ref": "Select"
        },
        "StartRule": {
          "Ref": "StartRule"
        },
        "DataType": {
          "Ref": "DataType"
        },
        "RuleDesc": {
          "Ref": "RuleDesc"
        },
        "Where": {
          "Ref": "Where"
        },
        "ProductKey": {
          "Ref": "ProductKey"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "ActionId": {
      "Description": "The ID of the rule action. ",
      "Value": {
        "Fn::GetAtt": [
          "Rule"
```

```
          "Rule",
          "ActionId"
        ]
      }
    },
    "RuleId": {
      "Description": "The ID of the rule. ",
      "Value": {
        "Fn::GetAtt": [
          "Rule",
          "RuleId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  TopicType:
    Type: Number
    Description: >-
      0: The topic is a basic communication topic or TSL-based communication
      topic.
      1: The topic is a custom topic.
      2: The topic is used to submit device status changes. Syntax:
      /as/mqtt/status/${productKey}/${deviceName}.
  IotInstanceId:
    Type: String
    Description: >-
      The ID of the instance. This parameter is not required for public
      instances. However,
      the parameter is required for the instances that you have purchased.
  ResourceGroupId:
    Type: String
    Description: >-
      The ID of the resource group to which the rule is assigned. You can view
      the resource
      group information in the Resource Management console.
      If you do not specify this parameter, the rule is assigned to the default
      resource
      group.
  RuleAction:
    Type: Json
    Description: ''
    MinLength: 1
    MaxLength: 10
  ShortTopic:
    Type: String
    Description: >-
      The topic to which this rule is applied. Syntax:
      ${deviceName}/topicShortName. ${deviceName}specifies the name of the
      device, and topicShortNamespecifies the custom name of the topic.
      Basic communication topics or Thing Specification Language (TSL)-based
      communication
      topics. Syntax: ${deviceName}/topicShortName. You can replace
      ${deviceName} with the + wildcard. The wildcard indicates that the topic
      applies to all devices under the
      product. Valid values of topicShortName:
      /thing/event/property/post: submits the property data of a device.
      /thing/event/${tsl.event.identifier}/post: submits the event data of a
      device.${tsl.event.identifier} specifies the identifier of an event in the
      TSL.
      /thing/lifecycle: submits device lifecycle changes.
      /thing/downlink/reply/message: sends a response to a request from IoT
      Platform.
      /thing/list/found: submits the data when a gateway detects a new
      sub-device.
      /thing/topo/lifecycle: submits device topology changes.
      /thing/event/property/history/post: submits historical property data of a
      device.
      /thing/event/${tsl.event.identifier}/post: submits the historical event
```

```
    data of a device.${tsl.event.identifier}specifies the identifier of an
    event in the TSL.
    /ota/upgrade: submits OTA update status.
    /ota/version/post: submits OTA module versions.
    /thing/deviceinfo/update: submits device tag changes.
    /edge/driver/${driver_id}/point_post: submits pass-through data from Link
    IoT Edge.${driver_id} specifies the ID of the driver that a device uses to
    access Link IoT Edge.
    ${packageId}/${jobId}/ota/job/status: submits the status of OTA update
    batches. This topic is a basic communication topic.
    ${packageId}specifies the ID of the firmware. ${jobId}specifies the ID of
    the update batch.
    Custom topics. Example:${deviceName}/user/get.
    You can call theQueryProductTopicoperation to view all custom topics of
    the product.
    When you specify a custom topic, you can use the + and # wildcards.
    You can replace ${deviceName} with the+ wildcard. The wildcard indicates
    that the topic applies to all devices under the
    product.
    You can replace the fields that follow ${deviceName} with /user/#. The #
    wildcard indicates that the topic applies whatever values are specified
    for the fields that
    follow/user.
    For more information about how to use wildcards, see Wildcards in topics.
    Topic that is used to submit device status changes: ${deviceName}.
    You can use the+wildcard. In this case, the status changes of all devices
    under the product are submitted.
Select:
  Type: String
  Description: >-
    The SQL SELECT statement that you want to execute. For more information,
    seeSQL expressions.
    Note Specify the fields that follow the Select keyword for this parameter.
    For example, if the Select statement is Select a,b,c, specify a,b,c for
    this parameter.
StartRule:
  Type: Boolean
  Description: >-
    Start the rule. The rule at least contains one rule action with normal
    data forward.
  AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
DataType:
  Type: String
  Description: >-
    The format of the data to be processed by the rule. You must specify the
    format of
    device data to be processed for this parameter. Valid values:
    JSON: JSON data
    BINARY: binary data
    Note If you specifyBINARY, you cannot set the TopicType parameter to 0 and
    forward data to Table Store, Time Series Database (TSDB), or ApsaradDB
    for RDS.
    Default value: JSON.
  AllowedValues:
    - BINARY
    - JSON
RuleDesc:
  Type: String
  Description: >-
    The description of the rule. The description can be up to 100 characters
    in length.
    Each Chinese symbol occupies 1 characters.
Where:
  Type: String
  Description: >-
    The condition that is used to trigger the rule. For more information,
    seeSQL expressions.
    Note Specify the fields that follow theWherekeyword for this parameter.
    For example, if the Where statement is Where a>10, specify a>10 for this
    parameter.
```

```
  ProductKey:
    Type: String
    Description: The ProductKey of the product to which the rule applies.
  Name:
    Type: String
    Description: >-
      The name of the rule. The name must be 1 to 30 characters in length and
      can contain
      English letters, digits, underscores (_), and hyphens (-). Chinese
      language is also
      supported. Each Chinese symbol occupies 2 characters.
Resources:
  Rule:
    Type: 'ALIYUN::IOT::Rule'
    Properties:
      TopicType:
        Ref: TopicType
      IotInstanceId:
        Ref: IotInstanceId
      ResourceGroupId:
        Ref: ResourceGroupId
      RuleAction:
        Ref: RuleAction
      ShortTopic:
        Ref: ShortTopic
      Select:
        Ref: Select
      StartRule:
        Ref: StartRule
      DataType:
        Ref: DataType
      RuleDesc:
        Ref: RuleDesc
      Where:
        Ref: Where
      ProductKey:
        Ref: ProductKey
      Name:
        Ref: Name
Outputs:
  ActionId:
    Description: 'The ID of the rule action. '
    Value:
      'Fn::GetAtt':
        - Rule
        - ActionId
  RuleId:
    Description: 'The ID of the rule. '
    Value:
      'Fn::GetAtt':
        - Rule
        - RuleId
```

40.6. ALIYUN::IOT::RuleAction

ALIYUN::IOT::RuleAction is used to create a rule action for a specified rule.

Syntax

```
{
  "Type": "ALIYUN::IOT::RuleAction",
  "Properties": {
    "ErrorActionFlag": Boolean,
    "Type": String,
    "IotInstanceId": String,
    "Configuration": String,
    "RuleId": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ErrorActionFlag	Boolean	No	No	Specifies whether the rule action forwards error operation data. Error operation data is generated when the rules engine failed to forward data from the IoT Platform (IOT) topic to the destination cloud service. A data forwarding failure indicates that forwarding retries also fail.	Default value: false. Valid values: • true: The rule action forwards error operation data. • false: The rule action does not forward error operation data.
Type	String	Yes	Yes	The type of the rule action. If the data type of the rules is the binary data format or the DataTypeparameter is set to BINARY, the rule does not support forwarding data to Tablestore (OTS).	Valid values: • REPUBLISH: forwards data that is processed by the rules engine to an IoT topic. • AMQP: forwards data to an Advanced Message Queuing Protocol (AMQP) consumer group. • DATAHUB: forwards data that is processed by the rules engine to DataHub for stream computing. • ONS: forwards data that is processed by the rules engine to Message Queue for Apache RocketMQ for message distribution. • MNS: forwards data that is processed by the rules engine to Message Service (MNS). • FC: forwards data that is processed by the rules engine to Function Compute for event computing. • OTS: forwards data that is processed by the rules engine to OTS for NoSQL data storage.
IotInstanceId	String	No	No	The ID of the instance.	This parameter is required for public and Enterprise Edition instances.
Configuration	String	Yes	Yes	The configurations of the rule action.	You must specify a JSON string. The configurations vary based on rule action types. For more information, see CreateRuleAction.
RuleId	Integer	Yes	No	The ID of the rule for which you want to create an action.	None

Response parameters

Fn::GetAtt

ActionId: the ID of the action.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ErrorActionFlag": {
      "Type": "Boolean",
      "Description": "Indicates whether the rule action forwarded error operation data. Error operation\ndata indicates that th
e rule engine failed to forward data from the IoT Platform topic\nto the destination cloud service. A data forwarding failure i
```

```
e rule engine failed to forward data from the IoT Platform topic\nto the destination cloud service. A data forwarding failure i
ndicates that forwarding\nretries also failed. Valid values:\ntrue: forwards error operation data.\nfalse: forwards normal data
instead of error operation data.\nDefault value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Type": {
      "Type": "String",
      "Description": "The type of the rule action. Valid values:\nMNS: forwards data in the topics that have been processed by
the rule engine to Message\nService (MNS) for message transmission.\nFC: forwards data in the topics that have been processed b
y the rule engine to Function\nCompute for event computing.\nREPUBLISH: forwards data in the topics that have been processed by
the rule engine to another\nIoT Platform topic.\nAMQP: forwards data to AMQP consumer groups.\nOTS: forwards data in the topics
that have been processed by the rule engine to Table\nStore for NoSQL data storage.\nNote\nRules of the binary data format (the
DataType parameter is set toBINARY) do not support forwarding data to Table Store.\nDestination Alibaba Cloud services that are
supported by the rule engine vary based\non regions. For more information about the regions and destination cloud services\ntha
t are supported by the rule engine, see Regions and zones.",
      "AllowedValues": [
        "AMQP",
        "DATAHUB",
        "FC",
        "MNS",
        "ONS",
        "OTS",
        "REPUBLISH"
      ]
    },
    "Configuration": {
      "Type": "String",
      "Description": "The configurations of the rule action. You must specify a JSON string. The configurations\nfor different
types of rule actions are different. For more information about required\nsyntax and examples, see the following tables."
    },
    "IotInstanceId": {
      "Type": "String",
      "Description": "The ID of the instance. This parameter is not required for public instances. However,\nthe parameter is r
equired for the instances that you have purchased."
    },
    "RuleId": {
      "Type": "Number",
      "Description": "The ID of the rule for which you want to create an action. You can use either of the\nfollowing methods t
o view the rule ID: 1. Log on to the IoT Platform console and choose Rules>Data Forwarding. 2. Call the ListRule operation."
    }
  },
  "Resources": {
    "RuleAction": {
      "Type": "ALIYUN::IOT::RuleAction",
      "Properties": {
        "ErrorActionFlag": {
          "Ref": "ErrorActionFlag"
        },
        "Type": {
          "Ref": "Type"
        },
        "Configuration": {
          "Ref": "Configuration"
        },
        "IotInstanceId": {
          "Ref": "IotInstanceId"
        },
        "RuleId": {
          "Ref": "RuleId"
        }
      }
    }
  },
  "Outputs": {
    "ActionId": {
      "Description": "The ID of the rule action. ",
      "Value": {
        "Fn::GetAtt": [
          "RuleAction",
          "ActionId"
```

```
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ErrorActionFlag:
    Type: Boolean
    Description: >-
      Indicates whether the rule action forwarded error operation data. Error
      operation
      data indicates that the rule engine failed to forward data from the IoT
      Platform topic
      to the destination cloud service. A data forwarding failure indicates that
      forwarding
      retries also failed. Valid values:
      true: forwards error operation data.
      false: forwards normal data instead of error operation data.
      Default value: false.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Type:
    Type: String
    Description: >-
      The type of the rule action. Valid values:
      MNS: forwards data in the topics that have been processed by the rule
      engine to Message
      Service (MNS) for message transmission.
      FC: forwards data in the topics that have been processed by the rule
      engine to Function
      Compute for event computing.
      REPUBLISH: forwards data in the topics that have been processed by the
      rule engine to another
      IoT Platform topic.
      AMQP: forwards data to AMQP consumer groups.
      OTS: forwards data in the topics that have been processed by the rule
      engine to Table
      Store for NoSQL data storage.
      Note
      Rules of the binary data format (the DataType parameter is set toBINARY)
      do not support forwarding data to Table Store.
      Destination Alibaba Cloud services that are supported by the rule engine
      vary based
      on regions. For more information about the regions and destination cloud
      services
      that are supported by the rule engine, see Regions and zones.
    AllowedValues:
      - AMQP
      - DATAHUB
      - FC
      - MNS
      - ONS
      - OTS
      - REPUBLISH
  Configuration:
    Type: String
    Description: >-
      The configurations of the rule action. You must specify a JSON string. The
      configurations
      for different types of rule actions are different. For more information
      about required
      syntax and examples, see the following tables.
  IotInstanceId:
    Type: String
    Description: >-
      The ID of the instance. This parameter is not required for public
```

```
      instances. However,
      the parameter is required for the instances that you have purchased.
  RuleId:
    Type: Number
    Description: >-
      The ID of the rule for which you want to create an action. You can use
      either of the
      following methods to view the rule ID: 1. Log on to the IoT Platform
      console and choose Rules>Data Forwarding. 2. Call the ListRule operation.
Resources:
  RuleAction:
    Type: 'ALIYUN::IOT::RuleAction'
    Properties:
      ErrorActionFlag:
        Ref: ErrorActionFlag
      Type:
        Ref: Type
      Configuration:
        Ref: Configuration
      IotInstanceId:
        Ref: IotInstanceId
      RuleId:
        Ref: RuleId
Outputs:
  ActionId:
    Description: 'The ID of the rule action. '
    Value:
      'Fn::GetAtt':
        - RuleAction
        - ActionId
```

41.KAFKA

41.1. ALIYUN::KAFKA::Instance

ALIYUN::KAFKA::Instance is used to create a Message Queue for Apache Kafka instance.

Syntax

```
{
  "Type": "ALIYUN::KAFKA::Instance",
  "Properties": {
    "DeployType": Integer,
    "DiskType": String,
    "DeployOption": Map,
    "EipMax": Integer,
    "SpecType": String,
    "IoMax": Integer,
    "IoMaxSpec": String,
    "DiskSize": Integer,
    "TopicQuota": Integer,
    "PayType": String,
    "Tags": List,
    "DeletionForce": Boolean,
    "OpenConnector": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DeployType	Integer	Yes	No	The network in which you deploy the instance.	Valid values: • 4: Internet and virtual private cloud (VPC) • 5: VPC
DiskType	String	Yes	No	The category of the disk.	Valid values: • 0: ultra disk • 1: SSD
DeployOption	Map	No	No	The details of deployment options.	For more information, see DeployOption properties.
EipMax	Integer	No	No	The Internet traffic.	This property is required when you set the DeployType property to 4. Valid values: 1 to 160.
SpecType	String	No	Yes	The edition of the instance.	Valid values: • normal: Standard Edition (High Write) • professional: Professional Edition (High Write) • professionalForHighRead: Professional Edition (High Read)
IoMax	Integer	No	Yes	The peak traffic.	You must specify the IoMax or IoMaxSpec property. If you specify both the properties, the value of the IoMaxSpec property takes precedence over the value of the IoMax property. We recommend that you specify only the IoMaxSpec property. For more information about the valid values, see Billing.

Property	Type	Required	Editable	Description	Constraint
IoMaxSpec	String	No	Yes	The traffic specification.	You must specify the IoMax or IoMaxSpec property. If you specify both the properties, the value of the IoMaxSpec property takes precedence over the value of the IoMax property. We recommend that you specify only the IoMaxSpec property. For more information about the valid values, see Billing.
DiskSize	Integer	Yes	Yes	The size of the disk.	Valid values: 500 to 96000. Unit: GB.
TopicQuota	Integer	Yes	Yes	The number of topics.	Valid values: 50 to 79.
PayType	String	No	No	The billing cycle of the instance.	Valid values: • Hour • Month
Tags	List	No	Yes	The tags of the instance.	You can add up to 20 tags. For more information, see Tags properties.
DeletionForce	Boolean	No	Yes	Specifies whether to force delete the instance.	Default value: false. Valid values: • true: force deletes the instance. • false: does not force delete the instance.
OpenConnector	Boolean	No	No	Specifies whether to enable the connector.	Default value: false. Valid values: • true: enables the connector. • false: disables the connector. Note For more information about connectors, see Overview.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The tag key cannot start with `aliyun` or `acs:`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The tag value cannot start with `aliyun` or `acs:`.

DeployOption syntax

```
"DeployOption": {
  "IsEipInner": Boolean,
  "VpcId": String,
  "ZoneId": String,
  "VSwitchId": String,
  "SecurityGroup": String,
  "DeployModule": String,
  "Name": String,
  "IsSetUserAndPassword": Boolean,
  "Username": String,
  "Password": String,
  "ServiceVersion": String,
  "Config": Map
}
```

DeployOption properties

Property	Type	Required	Editable	Description	Constraint
IsEipInner	Boolean	No	No	Specifies whether the instance supports elastic IP addresses (EIPs).	Default value: false. Valid values: • true: The instance supports EIPs. • false: The instance does not support EIPs. You must specify the value of this property based on the instance type. If you use an Internet- and VPC-connected instance, set the IsEipInner property to true. If you use a VPC-connected instance, set the IsEipInner property to false.
DeployModule	String	Yes	No	The deployment mode.	Valid values: • vpc: VPC • eip: Internet and VPC
VpcId	String	No	No	The ID of the VPC in which you deploy the instance.	None.
ZoneId	String	No	No	The ID of the zone in which you deploy the instance.	None.
VSwitchId	String	Yes	No	The ID of the vSwitch in which you deploy the instance.	None.
SecurityGroup	String	No	No	The security group of the instance.	If you do not specify this property, Message Queue for Apache Kafka automatically configures a security group for the instance.
Name	String	No	No	The name of the instance.	None.
IsSetUserAndPassword	Boolean	No	No	Specifies whether to configure a new username and password.	Only Internet- and VPC-connected instances are supported. Default value: false. Valid values: • true: configures a new username and password. • false: does not configure a new username or password.

Property	Type	Required	Editable	Description	Constraint
Username	String	No	No	The username.	Only Internet- and VPC-connected instances are supported. The username must be 8 to 40 characters in length, and can contain letters and digits.
Password	String	No	No	The password.	Only Internet- and VPC-connected instances are supported. The password must be 8 to 40 characters in length, and must contain lowercase letters, uppercase letters, and digits.
ServiceVersion	String	No	No	The version of the Message Queue for Apache Kafka service that you deploy.	Valid values: • 0.10.2 • 2.2.0

Property	Type	Required	Editable	Description	Constraint

Config	Map	No	No	The initial configurations of the Message Queue for Apache Kafka service that you deploy.	The value must be a valid JSON string. Valid values:
					• enable.vpc_sasl_ssl: specifies whether to enable VPC transmission encryption. Default value: false. Valid values:
					  ○ true: enables VPC transmission encryption. If you enable VPC transmission encryption, you must also enable the access control list (ACL) feature.
					  ○ false: disables VPC transmission encryption.
					• enable.acl: specifies whether to enable the ACL feature. Default value: false. Valid values:
					  ○ true: enables the ACL feature.
					  ○ false: disables the ACL feature.
					• kafka.log.retention.hours: the maximum retention period of messages when the disk capacity is sufficient.
					Valid values: 24 to 480.
					Default value: 72.
					Unit: hours.
					Note When the disk usage reaches 85%, the system considers that the disk capacity is insufficient. In this case, the system deletes messages in the order in which the messages are stored, from the earliest to the latest. This ensures service availability.
					• kafka.message.max.bytes: the maximum size of messages that Message Queue for Apache Kafka can send and receive.
					Valid values: 1048576 to 10485760.
					Default value: 1048576.
					Unit: byte.
					Note Before you modify the maximum message size, make sure that the new value matches the configurations on the producer and consumer.

Return values

Fn::GetAtt

- InstanceId: the ID of the instance.
- OrderId: the ID of the order.
- name: the name of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DeployType": {
```

```
      "Type": "Number",
      "Description": "The deployment mode of the Message Queue for Apache Kafka instance. Valid values: \n  4: Instance of the
public type \n  5: Instance of the VPC type",
      "AllowedValues": [
        4,
        5
      ],
      "Default": 5
    },
    "SpecType": {
      "Type": "String",
      "Description": "The edition of the Message Queue for Apache Kafka instance. Valid values: \nprofessional: Professional Ed
ition \nnormal: Normal version",
      "AllowedValues": [
        "normal",
        "professional",
        "professionalForHighRead"
      ],
      "Default": "normal"
    },
    "IoMaxSpec": {
      "Type": "String",
      "Description": "Flow specification (recommended) \nThe IoMax and IoMaxSpec must be optional. \nWhen filling in at the sam
e time, subject to IoMaxSpec. \nIt is recommended that you only fill in the flow specification \n",
      "Default": "alikafka.hw.2xlarge"
    },
    "PayType": {
      "Type": "String",
      "Description": "Pay by hour or month.",
      "AllowedValues": [
        "Hour",
        "Month"
      ],
      "Default": "Hour"
    },
    "DiskType": {
      "Type": "String",
      "Description": "The type of the disk to be configured for the Message Queue for Apache Kafka instance. Valid values: \n0:
Ultra disk \n1: SSD",
      "AllowedValues": [
        "0",
        "1"
      ],
      "Default": "1"
    },
    "DeployOption": {
      "Type": "Json",
      "Description": "If you want to deploy instance after create at once, the VSwitchId and DeployModule parameters is require
d",
      "Default": {
        "VpcId": "vpc-bp1vo0eez19cmlv1w****",
        "ZoneId": "cn-hangzhou-i",
        "VSwitchId": "vsw-bp1mq4dvcnvzbyevo****",
        "SecurityGroup": "sg-bp1gjon8qil2ufla****",
        "DeployModule": "vpc",
        "ServiceVersion": "0.10.2",
        "Config": {
          "kafka.log.retention.hours": "33"
        }
      }
    },
    "DeletionForce": {
      "Type": "Boolean",
      "Description": "Whether delete all topics, consumer groups of the kafka instance and then delete instance. Default is fal
se",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": "false"
    },
    "DiskSize": {
```

```
      "Type": "Number",
      "Description": "The size of the disk to be configured for the Message Queue for Apache Kafka instance.",
      "Default": 500
    },
    "TopicQuota": {
      "Type": "Number",
      "Description": "The number of topics to be configured for the Message Queue for Apache Kafka instance. \nThe default valu
e of this parameter varies with different peak traffic values. \nAdditional fees are charged if the default values are exceeded
.\n Different specifications have different default values, and extra fees are charged. \nFor more information, see Billing.",
      "Default": 50
    },
    "OpenConnector": {
      "Type": "Boolean",
      "Description": "Whether open kafka connector or not",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": "false"
    }
  },
  "Resources": {
    "Instance": {
      "Type": "ALIYUN::KAFKA::Instance",
      "Properties": {
        "DeployType": {
          "Ref": "DeployType"
        },
        "SpecType": {
          "Ref": "SpecType"
        },
        "PayType": {
          "Ref": "PayType"
        },
        "DiskType": {
          "Ref": "DiskType"
        },
        "DeployOption": {
          "Ref": "DeployOption"
        },
        "DeletionForce": {
          "Ref": "DeletionForce"
        },
        "DiskSize": {
          "Ref": "DiskSize"
        },
        "TopicQuota": {
          "Ref": "TopicQuota"
        },
        "OpenConnector": {
          "Ref": "OpenConnector"
        },
        "IoMaxSpec": {
          "Ref": "IoMaxSpec"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "Id of the instance. ",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "InstanceId"
        ]
      }
    },
    "OrderId": {
      "Description": "Id of the order. ",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
```

```
          "Instance",
          "OrderId"
        ]
      }
    },
    "Name": {
      "Description": "Name of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "Name"
        ]
      }
    }
  }
}
```

To view more examples, visit Instance.json and Instance.yml.

41.2. ALIYUN::KAFKA::Topic

ALIYUN::KAFKA::Topic is used to create a topic.

Syntax

```
{
  "Type": "ALIYUN::KAFKA::Topic",
  "Properties": {
    "InstanceId": String,
    "Topic": String,
    "Remark": String,
    "PartitionNum": Integer,
    "ReplicationFactor": Integer,
    "LocalTopic": Boolean,
    "CompactTopic": Boolean,
    "Config": Map,
    "MinInsyncReplicas": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the instance.	N/A
Topic	String	Yes	No	The name of the topic.	The name must be 3 to 64 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). **Note** The name cannot be modified after the topic is created.
Remark	String	Yes	No	The description of the topic.	The description must be 3 to 64 characters in length, and can contain letters, digits, underscores (_), and hyphens (-).
PartitionNum	Integer	No	No	The number of partitions in the topic.	Valid values: 1 to 48. To reduce the risk of data skew, we recommend that you set the number of partitions to a multiple of 6.

Property	Type	Required	Editable	Description	Constraint
ReplicationFactor	Integer	No	No	The number of replicas of the topic.	This property is valid if the LocalTopic property is set to true. Valid values: 1 to 3. **Note** If you set this property to 1, the risk of data loss increases. Proceed with caution.
LocalTopic	Boolean	No	No	The storage engine of the topic.	Valid values: • false: cloud storage • true: local storage
CompactTopic	Boolean	No	No	The log cleanup policy.	This property is valid if the LocalTopic property is set to true. Valid values: • false: the message cleanup policy. If the system has sufficient disk space, messages are retained for the maximum retention period. The system considers disk space to be insufficient when the disk usage exceeds 85%. If disk space is insufficient, the system deletes messages starting from the earliest stored message to ensure service availability. • true: the log compaction policy. If the keys of different messages are the same, messages that have the latest key values are retained.
Config	Map	No	No	The additional configurations.	This property is valid if the LocalTopic property is set to true. Sample value: `{"replications": 3}`. The sample value indicates that the number of topic replicas ranges from 1 to 3.
MinInsyncReplicas	Integer	No	No	The minimum number of in-sync replicas (ISR).	This property is valid if the LocalTopic property is set to true. Valid values: 1 to 3. The value of this property must be less than the value of the ReplicationFactor property.

Response parameters

Fn::GetAtt

- InstanceId: the ID of the instance.
- Topic: the name of the topic.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": "Test create Topic",
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the Message Queue for Apache Kafka instance."
    },
    "TopicName": {
      "Type": "String",
      "Description": "The name of the topic. The topic name must be 3 to 64 characters in length, and can contain letters, digi
ts, underscores (_), and hyphens (-)."
    },
    "Remark": {
      "Type": "String",
      "Description": "The description of the topic. The description must be 3 to 64 characters in length, and can contain lette
rs, digits, underscores (_), and hyphens (-)."
    },
    "PartitionNum": {
      "Type": "Number",
      "Description": "The number of partitions in the topic. Valid values: 1 to 48. To reduce the risk of data skew, we recomme
nd that you set the number of partitions to a multiple of 6.",
      "MinValue": 1,
      "MaxValue": 48,
      "Default": null
    }
  },
  "Resources": {
    "Topic": {
      "Type": "ALIYUN::KAFKA::Topic",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "Topic": {
          "Ref": "TopicName"
        },
        "Remark": {
          "Ref": "Remark"
        },
        "PartitionNum": {
          "Ref": "PartitionNum"
        }
      }
    }
  },
  "Outputs": {
    "TopicName": {
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "Topic"
        ]
      }
    }
  }
}
```

42.KMS

42.1. ALIYUN::KMS::Alias

ALIYUN::KMS::Alias is used to create an alias for a Customer Master Key (CMK).

Syntax

```
{
  "Type": "ALIYUN::KMS::Alias",
  "Properties": {
    "KeyId": String,
    "AliasName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
KeyId	String	Yes	No	The globally unique identifier of the CMK.	None
AliasName	String	Yes	No	The alias to give to the CMK. This alias can be used to call the Encrypt, GenerateDataKey, and DescribeKey operations.	Excluding the prefix, an alias must be 1 to 255 characters in length. The prefix alias/ must be included.

Response parameters

Fn::GetAtt

- None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Alias": {
      "Type": "ALIYUN::KMS::Alias",
      "Properties": {
        "KeyId": {
          "Ref": "KeyId"
        },
        "AliasName": {
          "Ref": "AliasName"
        }
      }
    }
  },
  "Parameters": {
    "KeyId": {
      "Type": "String",
      "Description": "The globally unique identifier of the CMK."
    },
    "AliasName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "- The display name of the key. You can use the alias to call APIs such as Encrypt, GenerateDataKey, and D
escribeKey. Excluding the prefix, an alias must be 1 to 255 characters in length. The prefix alias/ must be included.",
      "MaxLength": 255
    }
  },
  "Outputs": {}
}
```

42.2. ALIYUN::KMS::Key

ALIYUN::KMS::Key is used to create a customer master key (CMK).

Syntax

```
{
  "Type": "ALIYUN::KMS::Key",
  "Properties": {
    "KeyUsage": String,
    "Enable": Boolean,
    "PendingWindowInDays": Integer,
    "Description": String,
    "KeySpec": String,
    "EnableAutomaticRotation": Boolean,
    "RotationInterval": String,
    "ProtectionLevel": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
KeyUsage	String	No	No	The intended use of the CMK.	Valid values: • ENCRYPT/DECRYPT: The CMK encrypts or decrypts data. • SIGN/VERIFY: The CMK generates or verifies a digital signature.
Enable	Boolean	No	Yes	Specifies whether to enable the CMK.	Default value: true. Valid values: • true • false
PendingWindowInDays	Integer	No	No	The number of days to wait before the CMK is deleted. During this period, the CMK is in the PendingDeletion state and the delete operation can be canceled.	Valid values: 7 to 30. Default value: 30. Unit: days.
Description	String	No	Yes	The description of the CMK.	The description can be up to 8,192 characters in length.

Property	Type	Required	Editable	Description	Constraint
KeySpec	String	No	No	The type of the CMK.	Valid values: • Aliyun_AES_256 • Aliyun_SM4 • RSA_2048 • EC_P256 • EC_P256K • EC_SM2 **Note** If the CMK is created in Managed HSM in a region within mainland China, the default value is Aliyun_SM4. In other cases, the default value is Aliyun_AES_256.
EnableAutomaticRotation	Boolean	No	Yes	Specifies whether to enable automatic key rotation.	Default value: false. Valid values: • true • false
RotationInterval	String	No	Yes	The period of automatic key rotation. Example: `365d`.	It must be in the `integer[unit]` format. Valid values for the `unit`: • d: days • h: hours • m: minutes • s: seconds For example, both 7d and 604800s represent a seven-day period. The period can range from 7 to 730 days.
ProtectionLevel	String	No	No	The protection level of the CMK.	Default value: SOFTWARE. Valid values: • SOFTWARE • HSM

Response parameters

Fn::GetAtt

KeyId: the globally unique identifier of the CMK.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ProtectionLevel": {
      "Type": "String",
      "Description": "The protection level of the CMK to create. Valid value: SOFTWARE and HSM. When this parameter is set to HSM:\nIf the Origin parameter is set to Aliyun_KMS, the CMK is created in Managed HSM.\nIf the Origin parameter is set to EXTERNAL, you can import external keys to Managed HSM."
    },
```

```
    "Description": {
      "Type": "String",
      "Description": "The description of the CMK. Length constraints: Minimum length of 0 characters. Maximum length of 8192 ch
aracters.",
      "MinLength": 0,
      "MaxLength": 8192
    },
    "RotationInterval": {
      "Type": "String",
      "Description": "The time period for automatic rotation. The format is integer[unit], where integer represents the length
of time and unit represents the time unit. The legal unit units are: d (day), h (hour), m (minute), s (second). 7d or 604800s b
oth represent a 7-day cycle. Value: 7~730 days."
    },
    "EnableAutomaticRotation": {
      "Type": "Boolean",
      "Description": "Whether to enable automatic key rotation. Valid value: true/false (default)",
      "AllowedValues": [
        true,
        false
      ]
    },
    "PendingWindowInDays": {
      "Type": "Number",
      "Description": "The waiting period, specified in number of days. During this period, you can cancel the CMK in PendingDel
etion status. After the waiting period expires, you cannot cancel the deletion. The value must be between 7 and 30. Default val
ue is 30.",
      "MinValue": 7,
      "MaxValue": 30,
      "Default": 30
    },
    "KeySpec": {
      "Type": "String",
      "Description": "Key type. Valid value: Aliyun_AES_256/Aliyun_SM4/RSA_2048/EC_P256/EC_P256K/EC_SM2"
    },
    "Enable": {
      "Type": "Boolean",
      "Description": "Specifies whether the key is enabled. Defaults to true.",
      "AllowedValues": [
        true,
        false
      ],
      "Default": true
    },
    "KeyUsage": {
      "Type": "String",
      "Description": "The intended use of the CMK. Default value: ENCRYPT/DECRYPT.",
      "Default": "ENCRYPT/DECRYPT"
    }
  },
  "Resources": {
    "Key": {
      "Type": "ALIYUN::KMS::Key",
      "Properties": {
        "ProtectionLevel": {
          "Ref": "ProtectionLevel"
        },
        "Description": {
          "Ref": "Description"
        },
        "RotationInterval": {
          "Ref": "RotationInterval"
        },
        "EnableAutomaticRotation": {
          "Ref": "EnableAutomaticRotation"
        },
        "PendingWindowInDays": {
          "Ref": "PendingWindowInDays"
        },
        "KeySpec": {
          "Ref": "KeySpec"
        },
        "Enable": {
          "Ref": "Enable"
        },
```

```
        "KeyUsage": {
          "Ref": "KeyUsage"
        }
      }
    }
  },
  "Outputs": {
    "KeyId": {
      "Description": "The globally unique identifier for the CMK.",
      "Value": {
        "Fn::GetAtt": [
          "Key",
          "KeyId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ProtectionLevel:
    Type: String
    Description: >-
      The protection level of the CMK to create. Valid value: SOFTWARE and HSM.
      When this parameter is set to HSM:
      If the Origin parameter is set to Aliyun_KMS, the CMK is created in
      Managed HSM.
      If the Origin parameter is set to EXTERNAL, you can import external keys
      to Managed HSM.
  Description:
    Type: String
    Description: >-
      The description of the CMK. Length constraints: Minimum length of 0
      characters. Maximum length of 8192 characters.
    MinLength: 0
    MaxLength: 8192
  RotationInterval:
    Type: String
    Description: >-
      The time period for automatic rotation. The format is integer[unit], where
      integer represents the length of time and unit represents the time unit.
      The legal unit units are: d (day), h (hour), m (minute), s (second). 7d or
      604800s both represent a 7-day cycle. Value: 7~730 days.
  EnableAutomaticRotation:
    Type: Boolean
    Description: >-
      Whether to enable automatic key rotation. Valid value: true/false
      (default)
    AllowedValues:
      - true
      - false
  PendingWindowInDays:
    Type: Number
    Description: >-
      The waiting period, specified in number of days. During this period, you
      can cancel the CMK in PendingDeletion status. After the waiting period
      expires, you cannot cancel the deletion. The value must be between 7 and
      30. Default value is 30.
    MinValue: 7
    MaxValue: 30
    Default: 30
  KeySpec:
    Type: String
    Description: >-
      Key type. Valid value:
      Aliyun_AES_256/Aliyun_SM4/RSA_2048/EC_P256/EC_P256K/EC_SM2
  Enable:
    Type: Boolean
    Description: Specifies whether the key is enabled. Defaults to true.
    AllowedValues:
      - true
```

```
      - false
    Default: true
  KeyUsage:
    Type: String
    Description: 'The intended use of the CMK. Default value: ENCRYPT/DECRYPT.'
    Default: ENCRYPT/DECRYPT
Resources:
  Key:
    Type: 'ALIYUN::KMS::Key'
    Properties:
      ProtectionLevel:
        Ref: ProtectionLevel
      Description:
        Ref: Description
      RotationInterval:
        Ref: RotationInterval
      EnableAutomaticRotation:
        Ref: EnableAutomaticRotation
      PendingWindowInDays:
        Ref: PendingWindowInDays
      KeySpec:
        Ref: KeySpec
      Enable:
        Ref: Enable
      KeyUsage:
        Ref: KeyUsage
Outputs:
  KeyId:
    Description: The globally unique identifier for the CMK.
    Value:
      'Fn::GetAtt':
        - Key
        - KeyId
```

42.3. ALIYUN::KMS::Secret

ALIYUN::KMS::Secret is used to create a Key Management Service (KMS) secret and keep the initial version of the secret.

Syntax

```
{
  "Type": "ALIYUN::KMS::Secret",
  "Properties": {
    "VersionId": String,
    "SecretName": String,
    "Description": String,
    "SecretDataType": String,
    "SecretData": String,
    "VersionStages": List,
    "EncryptionKeyId": String,
    "RecoveryWindowInDays": Integer,
    "ForceDeleteWithoutRecovery": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VersionId	String	Yes	Yes	The version number of the initial version.	Version numbers are unique in each secret object.
SecretName	String	Yes	No	The name of the secret.	None
Description	String	No	Yes	The description of the secret.	None

Property	Type	Required	Editable	Description	Constraint
SecretDataType	String	No	No	The type of the secret value.	Valid values: • text • binary
SecretData	String	Yes	Yes	The value of the secret that you want to create. Secrets Manager encrypts the secret value and stores it in the initial version.	None
VersionStages	List	No	Yes	The stage labels that mark the secret version.	Default value: ACSCurrent. You can specify up to seven labels for each secret version.
EncryptionKeyId	String	No	No	The ID of the KMS customer master key (CMK) that is used to encrypt the secret value.	If you do not specify this parameter, Secrets Manager automatically creates an encryption key to encrypt the secret. **Note** The KMS CMK must be a symmetric key.
RecoveryWindowInDays	Integer	No	Yes	Specifies the recovery period of the secret if you do not forcibly delete it.	Default value: 30. Unit: days.
ForceDeleteWithoutRecovery	Boolean	No	Yes	Specifies whether to forcibly delete the secret. If this parameter is set to true, the secret cannot be recovered.	Valid values: • true • false

Response parameters

Fn::GetAtt

- SecretName: the secret name.
- Arn: the Alibaba Cloud Resource Name (ARN) of the secret.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VersionId": {
      "Type": "String",
      "Description": "The version number of the initial version. Version numbers are unique in each secret\nobject."
    },
    "SecretName": {
      "Type": "String",
      "Description": "The name of the secret."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the secret."
    },
    "SecretDataType": {
      "Type": "String",
```

```
      "Description": "The type of the secret value. Valid values:\ntext (default value)\nbinary",
      "AllowedValues": [
        "text",
        "binary"
      ]
    },
    "SecretData": {
      "Type": "String",
      "Description": "The value of the secret that you want to create. Secrets Manager encrypts the secret\nvalue and stores it
in the initial version."
    },
    "VersionStages": {
      "Type": "Json",
      "Description": "The stage labels that mark the secret version. ACSCurrent will be marked as DefaultIf you do not specify
it, Secrets Manager marks it with \"ACSCurrent\".",
      "MinLength": 1,
      "MaxLength": 7
    },
    "EncryptionKeyId": {
      "Type": "String",
      "Description": "The ID of the KMS CMK that is used to encrypt the secret value.\nIf you do not specify this parameter, Se
crets Manager automatically creates an encryption\nkey to encrypt the secret.\nNote The KMS CMK must be a symmetric key."
    },
    "RecoveryWindowInDays": {
      "Type": "Number",
      "Description": "Specifies the recovery period of the secret if you do not forcibly delete it. Default value: 30",
      "Default": 30
    },
    "ForceDeleteWithoutRecovery": {
      "Type": "Boolean",
      "Description": "Specifies whether to forcibly delete the secret. If this parameter is set to true, the secret cannot be r
ecovered. Valid values:\ntrue\nfalse (default value)",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    }
  },
  "Resources": {
    "Secret": {
      "Type": "ALIYUN::KMS::Secret",
      "Properties": {
        "VersionId": {
          "Ref": "VersionId"
        },
        "SecretName": {
          "Ref": "SecretName"
        },
        "Description": {
          "Ref": "Description"
        },
        "SecretDataType": {
          "Ref": "SecretDataType"
        },
        "SecretData": {
          "Ref": "SecretData"
        },
        "VersionStages": {
          "Ref": "VersionStages"
        },
        "EncryptionKeyId": {
          "Ref": "EncryptionKeyId"
        },
        "RecoveryWindowInDays": {
          "Ref": "RecoveryWindowInDays"
        },
        "ForceDeleteWithoutRecovery": {
          "Ref": "ForceDeleteWithoutRecovery"
        }
      }
    }
  }
```

```
  },
  "Outputs": {
    "SecretName": {
      "Description": "The name of the secret.",
      "Value": {
        "Fn::GetAtt": [
          "Secret",
          "SecretName"
        ]
      }
    },
    "Arn": {
      "Description": "The Alibaba Cloud Resource Name (ARN).",
      "Value": {
        "Fn::GetAtt": [
          "Secret",
          "Arn"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  VersionId:
    Type: String
    Description: >-
      The version number of the initial version. Version numbers are unique in
      each secret
      object.
  SecretName:
    Type: String
    Description: The name of the secret.
  Description:
    Type: String
    Description: The description of the secret.
  SecretDataType:
    Type: String
    Description: |-
      The type of the secret value. Valid values:
      text (default value)
      binary
    AllowedValues:
      - text
      - binary
  SecretData:
    Type: String
    Description: >-
      The value of the secret that you want to create. Secrets Manager encrypts
      the secret
      value and stores it in the initial version.
  VersionStages:
    Type: Json
    Description: >-
      The stage labels that mark the secret version. ACSCurrent will be marked
      as DefaultIf you do not specify it, Secrets Manager marks it with
      "ACSCurrent".
    MinLength: 1
    MaxLength: 7
  EncryptionKeyId:
    Type: String
    Description: >-
      The ID of the KMS CMK that is used to encrypt the secret value.
      If you do not specify this parameter, Secrets Manager automatically
      creates an encryption
      key to encrypt the secret.
      Note The KMS CMK must be a symmetric key.
  RecoveryWindowInDays:
    Type: Number
    Description: >-
      Specifies the recovery period of the secret if you do not forcibly delete
```

```
      it. Default value: 30
    Default: 30
  ForceDeleteWithoutRecovery:
    Type: Boolean
    Description: >-
      Specifies whether to forcibly delete the secret. If this parameter is set
      to true, the secret cannot be recovered. Valid values:
      true
      false (default value)
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
Resources:
  Secret:
    Type: 'ALIYUN::KMS::Secret'
    Properties:
      VersionId:
        Ref: VersionId
      SecretName:
        Ref: SecretName
      Description:
        Ref: Description
      SecretDataType:
        Ref: SecretDataType
      SecretData:
        Ref: SecretData
      VersionStages:
        Ref: VersionStages
      EncryptionKeyId:
        Ref: EncryptionKeyId
      RecoveryWindowInDays:
        Ref: RecoveryWindowInDays
      ForceDeleteWithoutRecovery:
        Ref: ForceDeleteWithoutRecovery
Outputs:
  SecretName:
    Description: The name of the secret.
    Value:
      'Fn::GetAtt':
        - Secret
        - SecretName
  Arn:
    Description: The Alibaba Cloud Resource Name (ARN).
    Value:
      'Fn::GetAtt':
        - Secret
        - Arn
```

43.MarketPlace

43.1. ALIYUN::MarketPlace::Order

ALIYUN::MarketPlace::Order is used to purchase resources from Alibaba Cloud Marketplace.

Syntax

```
{
  "Type": "ALIYUN::MarketPlace::Order",
  "Properties": {
    "ProductCode": String,
    "SkuCode": String,
    "PricingCycle": String,
    "Preference": Map,
    "ChargeType": String,
    "Duration": Number,
    "Quantity": Number
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
ProductCode	String	Yes	No	The code of a Alibaba Cloud Marketplace product.	None
SkuCode	String	Yes	No	The SKU code of the product.	None
PricingCycle	String	No	No	The billing cycle of the product.	This parameter is ignored if the ChargeType parameter is set to Postpaid. This parameter can be set to Month or Year if the ChargeType parameter is set to Prepaid.
Preference	Map	No	No	The user-defined parameters of the product.	None
ChargeType	String	No	No	The billing method of the product.	Valid values: Prepaid and Postpaid. Default value: Prepaid.

Name	Type	Required	Editable	Description	Validity
Duration	Number	No	No	The subscription period of the product.	Valid values: 1, 2, 3, 6, 12, and 24. Unit: month. Default value: 1. This parameter is used in combination with the PricingCycle parameter. The billing cycle for Alibaba Cloud Marketplace resources can be one month, one quarter, half a year, one year, or two years. If the PricingCycle parameter is not set, the resource is bought only once.
Quantity	Number	No	No	The number of products to be purchased.	Default value: 1.

Response parameters

Fn::GetAtt

OrderId: the order ID of the purchased Alibaba Cloud Marketplace product.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MarketOrder": {
      "Type": "ALIYUN::MarketPlace::Order",
      "Properties": {
        "ProductCode":"cmapi011900",
        "SkuCode":"postpay",
        "Duration":"1",
        "PricingCycle": "Year",
        "Quantity": 1,
        "ChargeType": "Prepaid",
        "Preference": {"my_email": "1111@aliyun.com"}
      }
    }
  },
  "Outputs" : {
    "OderId": {
      "Value": {
        "Fn::GetAtt": [
          "MarketOrder",
          "OrderId"
        ]
      }
    }
  }
}
```

44.MaxCompute

44.1. ALIYUN::MaxCompute::Table

ALIYUN::MaxCompute::Table is used to create a table.

Syntax

```
{
  "Type": "ALIYUN::MaxCompute::Table",
  "Properties": {
    "Comment": String,
    "Project": String,
    "IfNotExists": Boolean,
    "Lifecycle": Number,
    "Schema": Map,
    "StringSchema": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Comment	String	No	No	The comment of the table.	None
Project	String	Yes	No	The name of the project.	If this parameter is not specified, the default project is used.
IfNotExists	Boolean	No	No	Specifies whether to report an error when a table with the same name already exists.	If this parameter is not specified, an error is reported when a table with the same name already exists. If this parameter is specified, no error occurs regardless of whether a table with the same name already exists. If you create a table by using the name of an existing table, the table is not created and the metadata of the existing table is not changed.
Lifecycle	Number	No	No	The lifecycle of the table.	None
Schema	Map	No	No	The schema of the table.	For more information, see Schema properties.
StringSchema	String	No	No	The schema used to create a table that contains string-typed field names and field types.	None
Name	String	Yes	No	The name of the table.	The name must be 1 to 128 characters in length and can contain letters, digits, and underscores (_).

Schema syntax

```
"Schema": {
  "Partitions": List,
  "Columns": List
}
```

Schema properties

Property	Type	Required	Editable	Description	Constraint
Partitions	List	No	No	The partitions of the table.	For more information, see Partitions properties.
Columns	List	Yes	No	The columns of the table.	For more information, see Columns properties.

Partitions syntax

```
"Partitions": [
  {
    "Comment": String,
    "Type": String,
    "Name": String
  }
]
```

Partitions properties

Property	Type	Required	Editable	Description	Constraint
Comment	String	No	No	The comment of the partition.	None
Type	String	Yes	No	The type of the partition.	None
Name	String	Yes	No	The name of the partition.	None

Columns syntax

```
"Columns": [
  {
    "Comment": String,
    "Type": String,
    "Name": String
  }
]
```

Columns properties

Property	Type	Required	Editable	Description	Constraint
Comment	String	No	No	The comment of the column.	None
Type	String	Yes	No	The type of the column.	None
Name	String	Yes	No	The name of the column.	None

Response parameters

Fn::GetAtt

- Project: the name of the project.
- Name: the name of the table.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Comment": {
      "Type": "String",
      "Description": "Table comment"
    },
```

```
    "Project": {
      "Type": "String",
      "Description": "Project name, if not provided, will be the default project"
    },
    "IfNotExists": {
      "Type": "Boolean",
      "Description": "If you create a table by using the name of an existing table and \nthe parameter set to false, an error i
s returned. \nIf you specify the if not exists parameter, a success message \nis returned when you create a table by using the
name of an \nexisting table. The success message is returned even if the \nschema of the existing table is different from that
of the table you want to create. \nIf you create a table by using the name of an existing table, \nthe table is not created and
the metadata of the existing table is not changed.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Lifecycle": {
      "Type": "Number",
      "Description": "Table's lifecycle."
    },
    "Schema": {
      "Type": "Json",
      "Description": "Table schema"
    },
    "StringSchema": {
      "Type": "String",
      "Description": "Create a table with field names and field type strings.\nExample: 'num bigint, num2 double', 'pt string'"
    },
    "Name": {
      "Type": "String",
      "Description": "Table name",
      "AllowedPattern": "[A-Za-z0-9_]{1,128}"
    }
  },
  "Resources": {
    "Table": {
      "Type": "ALIYUN::MaxCompute::Table",
      "Properties": {
        "Comment": {
          "Ref": "Comment"
        },
        "Project": {
          "Ref": "Project"
        },
        "IfNotExists": {
          "Ref": "IfNotExists"
        },
        "Lifecycle": {
          "Ref": "Lifecycle"
        },
        "Schema": {
          "Ref": "Schema"
        },
        "StringSchema": {
          "Ref": "StringSchema"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Project": {
      "Description": "Project name",
      "Value": {
        "Fn::GetAtt": [
          "Table",
          "Project"
        ]
      }
    },
```

```
    "Name": {
      "Description": "Table name",
      "Value": {
        "Fn::GetAtt": [
          "Table",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Comment:
    Description: Table comment
    Type: String
  IfNotExists:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "If you create a table by using the name of an existing table and\
      \ \nthe parameter set to false, an error is returned. \nIf you specify the if\
      \ not exists parameter, a success message \nis returned when you create a table\
      \ by using the name of an \nexisting table. The success message is returned\
      \ even if the \nschema of the existing table is different from that of the table\
      \ you want to create. \nIf you create a table by using the name of an existing\
      \ table, \nthe table is not created and the metadata of the existing table is\
      \ not changed."
    Type: Boolean
  Lifecycle:
    Description: Table's lifecycle.
    Type: Number
  Name:
    AllowedPattern: '[A-Za-z0-9_]{1,128}'
    Description: Table name
    Type: String
  Project:
    Description: Project name, if not provided, will be the default project
    Type: String
  Schema:
    Description: Table schema
    Type: Json
  StringSchema:
    Description: 'Create a table with field names and field type strings.
      Example: ''num bigint, num2 double'', ''pt string'''
    Type: String
Resources:
  Table:
    Properties:
      Comment:
        Ref: Comment
      IfNotExists:
        Ref: IfNotExists
      Lifecycle:
        Ref: Lifecycle
      Name:
        Ref: Name
      Project:
        Ref: Project
      Schema:
        Ref: Schema
      StringSchema:
        Ref: StringSchema
    Type: ALIYUN::MaxCompute::Table
Outputs:
  Name:
    Description: Table name
    Value:
      Fn::GetAtt:
      - Table
      - Name
  Project:
    Description: Project name
    Value:
      Fn::GetAtt:
      - Table
      - Project
```

45.Memcache

45.1. ALIYUN::Memcache::Instance

ALIYUN::MEMCACHE::Instance is used to create an ApsaraDB for Memcache instance.

Syntax

```
{
  "Type": "ALIYUN::Memcache::Instance",
  "Properties": {
    "VpcId": String,
    "Capacity": Integer,
    "ResourceGroupId": String,
    "BackupPolicy": Map,
    "CouponNo": String,
    "AutoRenewPeriod": String,
    "AutoUseCoupon": String,
    "ZoneId": String,
    "InstanceName": String,
    "AutoRenew": String,
    "InstanceClass": String,
    "VpcPasswordFree": Boolean,
    "VSwitchId": String,
    "ChargeType": String,
    "Period": String,
    "NetworkType": String,
    "Password": String,
    "Config": String,
    "PrivateIpAddress": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	No	No	The ID of the VPC.	None
Capacity	Integer	No	No	The capacity of the instance.	You must specify at least one of the Capacity and InstanceClass parameters. Unit: MB.
ResourceGroupId	String	No	No	The ID of the resource group.	None
BackupPolicy	Map	No	Yes	The backup policy.	For more information, see BackupPolicy properties.
CouponNo	String	No	No	The coupon code.	Default value: youhuiquan_promotion_option_id_for_blank.
AutoRenewPeriod	String	No	No	The auto-renewal period for the instance.	Valid values: • 1 • 2 • 3 • 6 • 12 Unit: months. **Note** This parameter is required when the AutoRenew parameter is set to true.

Property	Type	Required	Editable	Description	Constraint
AutoUseCoupon	String	No	No	Specifies whether to use coupons.	Default value: false. Valid values: • true • false
ZoneId	String	No	No	The zone ID of the instance.	None
InstanceName	String	No	Yes	The name of the instance.	The name must be 2 to 128 characters in length and cannot contain spaces or the following special characters: `@ / : = " < > { [ ] }` It must start with a letter.
AutoRenew	String	No	No	Specifies whether to enable auto-renewal.	Default value: false. Valid values: • true • false
InstanceClass	String	No	No	The instance type.	You must specify at least one of the Capacity and InstanceClass parameters.
VpcPasswordFree	Boolean	No	No	Specifies whether to enable the password-free feature for access to the instance from a VPC.	None
VSwitchId	String	No	No	The ID of the vSwitch.	None
ChargeType	String	No	No	The billing method of the instance.	Default value: PostPaid. Valid values: • PrePaid: the subscription billing method. • PostPaid: the pay-as-you-go billing method.
Period	String	No	No	The billing cycle.	Valid values: • 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • 12 • 24 • 36 Unit: months. This parameter is required when the ChargeType parameter is set to PrePaid. This parameter cannot be specified when ChargeType is set to PostPaid.
NetworkType	String	No	No	The network type of the instance.	Default value: CLASSIC. Valid values: • CLASSIC • VPC

Property	Type	Required	Editable	Description	Constraint
Password	String	No	No	The password of the instance.	The password must be 8 to 32 characters in length and must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `! @ # $ % ^ & * ( ) _ + - =`
Config	String	No	No	The configurations of the instance.	The parameter value is a JSON string.
PrivateIpAddress	String	No	No	The private IP address of the instance.	The private IP address must be within the CIDR block of the vSwitch to which the instance belongs.

BackupPolicy syntax

```
"BackupPolicy": {
  "PreferredBackupTime": String,
  "EnableBackupLog": Integer,
  "PreferredBackupPeriod": String
}
```

BackupPolicy properties

Property	Type	Required	Editable	Description	Constraint
PreferredBackupTime	String	Yes	Yes	The backup window.	Specify the window in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC.
EnableBackupLog	Integer	No	Yes	Specifies whether to enable incremental backup.	Default value: 0. Valid values: • 1: enables incremental backup. • 0: disables incremental backup.
PreferredBackupPeriod	String	Yes	Yes	The backup cycle.	Valid values: • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday

Response parameters

Fn::GetAtt

- InstanceId: the ID of the instance.
- InstanceName: the name of the instance.
- ConnectionDomain: the endpoint that is used to connect to the instance.
- Port: the port that is used to connect to the instance.
- QPS: queries per second.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MemcacheInstance": {
      "Type": "ALIYUN::Memcache::Instance",
      "Properties": {
```

```
        "Properties": {
          "VpcId": {
            "Ref": "VpcId"
          },
          "Capacity": {
            "Ref": "Capacity"
          },
          "Config": {
            "Ref": "Config"
          },
          "AutoRenew": {
            "Ref": "AutoRenew"
          },
          "AutoRenewPeriod": {
            "Ref": "AutoRenewPeriod"
          },
          "CouponNo": {
            "Ref": "CouponNo"
          },
          "BackupPolicy": {
            "Ref": "BackupPolicy"
          },
          "AutoUseCoupon": {
            "Ref": "AutoUseCoupon"
          },
          "ZoneId": {
            "Ref": "ZoneId"
          },
          "ResourceGroupId": {
            "Ref": "ResourceGroupId"
          },
          "InstanceClass": {
            "Ref": "InstanceClass"
          },
          "VpcPasswordFree": {
            "Ref": "VpcPasswordFree"
          },
          "VSwitchId": {
            "Ref": "VSwitchId"
          },
          "ChargeType": {
            "Ref": "ChargeType"
          },
          "Period": {
            "Ref": "Period"
          },
          "NetworkType": {
            "Ref": "NetworkType"
          },
          "Password": {
            "Ref": "Password"
          },
          "InstanceName": {
            "Ref": "InstanceName"
          },
          "PrivateIpAddress": {
            "Ref": "PrivateIpAddress"
          }
        }
      }
    },
    "Parameters": {
      "VpcId": {
        "Type": "String",
        "Description": "The ID of the VPC."
      },
      "Capacity": {
        "Type": "Number",
        "Description": "The storage capacity of the instance. Unit: MB.\nNote You need to pass at least one of the Capacity and I
nstanceClass parameters when calling\nthe CreateInstance operation."
      },
      "Config": {
        "Type": "String",
        "Description": "The parameter configuration of the instance, in a JSON string. For more information,\nsee Set parameters.
"
```

```
    },
    "AutoRenew": {
      "Type": "String",
      "Description": "Specifies whether to enable auto renewal. Valid values:\ntrue\nfalse\nNote Default value: false."
    },
    "AutoRenewPeriod": {
      "Type": "String",
      "Description": "The period of the auto renewal. Unit: months. Valid values:\n1\n2\n3\n6\n12\nNote You must specify this p
arameter if the value of the AutoRenew parameter is true."
    },
    "CouponNo": {
      "Type": "String",
      "Description": "The coupon number. Default value: youhuiquan_promotion_option_id_for_blank."
    },
    "BackupPolicy": {
      "Type": "Json",
      "Description": "Backup policy"
    },
    "AutoUseCoupon": {
      "Type": "String",
      "Description": "Specifies whether to use a coupon. Valid values:\ntrue\nfalse\nNote Default value: false."
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The ID of the zone in which the instance is created. You can call the DescribeRegions operation to query
the latest region list."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group ID."
    },
    "InstanceClass": {
      "Type": "String",
      "Description": "The instance type. For more information, see Instance types.\nNote You need to pass at least one of the C
apacity and InstanceClass parameters when calling\nthe CreateInstance operation."
    },
    "VpcPasswordFree": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable password free for access within the VPC. If set to:\n- true: enables password
free.\n- false: disables password free.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The ID of the vSwitch."
    },
    "ChargeType": {
      "Type": "String",
      "Description": "The billing method of the instance. Valid values:\nPrePaid: subscription.\nPostPaid: pay-as-you-go.\nNote
Default value: PostPaid."
    },
    "Period": {
      "Type": "String",
      "Description": "The subscription period. You must specify this parameter if the value of the ChargeType\nparameter is Pre
Paid. Unit: months. Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24,\nand 36.\nNote This parameter is invalid if the value of t
he ChargeType parameter is PostPaid."
    },
    "NetworkType": {
      "Type": "String",
      "Description": "The network type of the instance. Valid values:\nCLASSIC\nVPC\nNote Default value: CLASSIC."
    },
    "Password": {
      "Type": "String",
      "Description": "The password of the instance. The password can be 8 to 32 characters in length and\nmust contain at least
three types of the following characters: uppercase letters,\nlowercase letters, digits, and special characters. Special charact
ers include ! at signs (@), number signs (#), dollar signs ($), percent signs (%), carets (^),\nampersands (&), asterisks (*),
parentheses (()), underscores (_), plus signs (+),\nhyphens (-), and equal signs (=)."
    },
    "InstanceName": {
```

```
      "Type": "String",
      "Description": "The name of the instance. The name can be 2 to 128 characters in length and must start\nwith a letter. Th
e following characters are not supported: at signs (@), forward slashes (/), colons (:), equal signs (=), double quotation mark
s\n(\"), angle brackets (<>), braces ([]), curly brackets ({}) and spaces."
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "The internal IP address of the instance.\nNote The internal IP address must be located in the Classless I
nter-Domain Routing (CIDR)\nblock of the VSwitch to which the instance belongs."
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The globally unique identifier (GUID) of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "MemcacheInstance",
          "InstanceId"
        ]
      }
    },
    "ConnectionDomain": {
      "Description": "The internal endpoint of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "MemcacheInstance",
          "ConnectionDomain"
        ]
      }
    },
    "InstanceName": {
      "Description": "The name of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "MemcacheInstance",
          "InstanceName"
        ]
      }
    },
    "Port": {
      "Description": "Port of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "MemcacheInstance",
          "Port"
        ]
      }
    },
    "QPS": {
      "Description": "QPS.",
      "Value": {
        "Fn::GetAtt": [
          "MemcacheInstance",
          "QPS"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  MemcacheInstance:
    Type: 'ALIYUN::Memcache::Instance'
    Properties:
      VpcId:
        Ref: VpcId
      Capacity:
        Ref: Capacity
      Config:
        Ref: Config
```

```
      AutoRenew:
        Ref: AutoRenew
      AutoRenewPeriod:
        Ref: AutoRenewPeriod
      CouponNo:
        Ref: CouponNo
      BackupPolicy:
        Ref: BackupPolicy
      AutoUseCoupon:
        Ref: AutoUseCoupon
      ZoneId:
        Ref: ZoneId
      ResourceGroupId:
        Ref: ResourceGroupId
      InstanceClass:
        Ref: InstanceClass
      VpcPasswordFree:
        Ref: VpcPasswordFree
      VSwitchId:
        Ref: VSwitchId
      ChargeType:
        Ref: ChargeType
      Period:
        Ref: Period
      NetworkType:
        Ref: NetworkType
      Password:
        Ref: Password
      InstanceName:
        Ref: InstanceName
      PrivateIpAddress:
        Ref: PrivateIpAddress
Parameters:
  VpcId:
    Type: String
    Description: The ID of the VPC.
  Capacity:
    Type: Number
    Description: >-
      The storage capacity of the instance. Unit: MB.
      Note You need to pass at least one of the Capacity and InstanceClass
      parameters when calling
      the CreateInstance operation.
  Config:
    Type: String
    Description: >-
      The parameter configuration of the instance, in a JSON string. For more
      information,
      see Set parameters.
  AutoRenew:
    Type: String
    Description: |-
      Specifies whether to enable auto renewal. Valid values:
      true
      false
      Note Default value: false.
  AutoRenewPeriod:
    Type: String
    Description: >-
      The period of the auto renewal. Unit: months. Valid values:
      1
      2
      3
      6
      12
      Note You must specify this parameter if the value of the AutoRenew
      parameter is true.
  CouponNo:
    Type: String
    Description: >-
      The coupon number. Default value:
      youhuiquan_promotion_option_id_for_blank.
  BackupPolicy:
    Type: Json
    Description: Backup policy
```

```
    Description: Backup policy
  AutoUseCoupon:
    Type: String
    Description: |-
      Specifies whether to use a coupon. Valid values:
      true
      false
      Note Default value: false.
  ZoneId:
    Type: String
    Description: >-
      The ID of the zone in which the instance is created. You can call the
      DescribeRegions operation to query the latest region list.
  ResourceGroupId:
    Type: String
    Description: Resource group ID.
  InstanceClass:
    Type: String
    Description: >-
      The instance type. For more information, see Instance types.
      Note You need to pass at least one of the Capacity and InstanceClass
      parameters when calling
      the CreateInstance operation.
  VpcPasswordFree:
    Type: Boolean
    Description: >-
      Specifies whether to enable password free for access within the VPC. If
      set to:
      - true: enables password free.
      - false: disables password free.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  VSwitchId:
    Type: String
    Description: The ID of the vSwitch.
  ChargeType:
    Type: String
    Description: |-
      The billing method of the instance. Valid values:
      PrePaid: subscription.
      PostPaid: pay-as-you-go.
      Note Default value: PostPaid.
  Period:
    Type: String
    Description: >-
      The subscription period. You must specify this parameter if the value of
      the ChargeType
      parameter is PrePaid. Unit: months. Valid values: 1, 2, 3, 4, 5, 6, 7, 8,
      9, 12, 24,
      and 36.
      Note This parameter is invalid if the value of the ChargeType parameter is
      PostPaid.
  NetworkType:
    Type: String
    Description: |-
      The network type of the instance. Valid values:
      CLASSIC
      VPC
      Note Default value: CLASSIC.
  Password:
    Type: String
    Description: >-
      The password of the instance. The password can be 8 to 32 characters in
      length and
      must contain at least three types of the following characters: uppercase
      letters,
      lowercase letters, digits, and special characters. Special characters
      include ! at signs (@), number signs (#), dollar signs ($), percent signs
      (%), carets (^),
      ampersands (&), asterisks (*), parentheses (()), underscores (_), plus
      signs (+),
      hyphens (-), and equal signs (=).
```

```
  InstanceName:
    Type: String
    Description: >-
      The name of the instance. The name can be 2 to 128 characters in length
      and must start
      with a letter. The following characters are not supported: at signs (@),
      forward slashes (/), colons (:), equal signs (=), double quotation marks
      ("), angle brackets (<>), braces ([]), curly brackets ({}) and spaces.
  PrivateIpAddress:
    Type: String
    Description: >-
      The internal IP address of the instance.
      Note The internal IP address must be located in the Classless Inter-Domain
      Routing (CIDR)
      block of the VSwitch to which the instance belongs.
Outputs:
  InstanceId:
    Description: The globally unique identifier (GUID) of the instance.
    Value:
      'Fn::GetAtt':
        - MemcacheInstance
        - InstanceId
  ConnectionDomain:
    Description: The internal endpoint of the instance.
    Value:
      'Fn::GetAtt':
        - MemcacheInstance
        - ConnectionDomain
  InstanceName:
    Description: The name of the instance.
    Value:
      'Fn::GetAtt':
        - MemcacheInstance
        - InstanceName
  Port:
    Description: Port of created instance.
    Value:
      'Fn::GetAtt':
        - MemcacheInstance
        - Port
  QPS:
    Description: QPS.
    Value:
      'Fn::GetAtt':
        - MemcacheInstance
        - QPS
```

45.2. ALIYUN::Memcache::Whitelist

ALIYUN::Memcache::Whitelist is used to create a Whitelist.

Syntax

```
{
  "Type": "ALIYUN::Memcache::Whitelist",
  "Properties": {
    "InstanceId": String,
    "SecurityIpGroupName": String,
    "SecurityIpGroupAttribute": String,
    "SecurityIps": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	Not supported	The ID of the instance.	None

Parameter	Type	Required	Editable	Description	Constraint
SecurityIpGroupName	String	No	Released	The name of the IP address whitelist.	None
SecurityIpGroupAttribute	String	No	Released	Properties of the IP address whitelist	This parameter is not specified by default. If you set this parameter to hidden, the IP address whitelist will not be displayed in the console.
SecurityIps	String	Yes	Yes	IP addresses in the IP whitelist group.	Up to 1,000 IP addresses. Separate multiple IP addresses with commas (,). Supported formats include 0.0.0.0/0,10.23.12.24, and 10.23.12.24/24(CIDR mode). " /24 "indicates the length of the prefix in the address, ranging from 1 to 32.

Return value

Fn::GetAtt

- SecurityIpGroupName: The name of the IP address whitelist.
- SecurityIpGroupAttribute: The attribute of the IP address whitelist.
- SecurityIps: The list of IP addresses in the IP address whitelist.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Whitelist": {
      "Type": "ALIYUN::Memcache::Whitelist",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "SecurityIpGroupName": {
          "Ref": "SecurityIpGroupName"
        },
        "SecurityIpGroupAttribute": {
          "Ref": "SecurityIpGroupAttribute"
        },
        "SecurityIps": {
          "Ref": "SecurityIps"
        }
      }
    }
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "Instance ID (globally unique)"
    },
    "SecurityIpGroupName": {
      "AllowedPattern": "[a-z][a-zA-Z0-9_]*[a-zA-Z0-9]",
      "MinLength": 2,
      "Type": "String",
      "Description": "Whitelist group",
      "MaxLength": 32
    },
    "SecurityIpGroupAttribute": {
```

```
      "Type": "String",
      "Description": "The default is empty. For distinguishing between different attribute values, the console will not display
the value of hidden whitelist packet."
    },
    "SecurityIps": {
      "Type": "String",
      "Description": "IP address whitelist to be modified"
    }
  },
  "Outputs": {
    "SecurityIpGroupName": {
      "Description": "Whitelist group",
      "Value": {
        "Fn::GetAtt": [
          "Whitelist",
          "SecurityIpGroupName"
        ]
      }
    },
    "SecurityIpGroupAttribute": {
      "Description": "The default is empty. For distinguishing between different attribute values, the console will not display
the value of hidden whitelist packet.",
      "Value": {
        "Fn::GetAtt": [
          "Whitelist",
          "SecurityIpGroupAttribute"
        ]
      }
    },
    "SecurityIps": {
      "Description": "IP address whitelist to be modified",
      "Value": {
        "Fn::GetAtt": [
          "Whitelist",
          "SecurityIps"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Whitelist:
    Type: 'ALIYUN::Memcache::Whitelist'
    Properties:
      InstanceId:
        Ref: InstanceId
      SecurityIpGroupName:
        Ref: SecurityIpGroupName
      SecurityIpGroupAttribute:
        Ref: SecurityIpGroupAttribute
      SecurityIps:
        Ref: SecurityIps
Parameters:
  InstanceId:
    Type: String
    Description: Instance ID (globally unique)
  SecurityIpGroupName:
    AllowedPattern: '[a-z][a-zA-Z0-9_]*[a-zA-Z0-9]'
    MinLength: 2
    Type: String
    Description: Whitelist group
    MaxLength: 32
  SecurityIpGroupAttribute:
    Type: String
    Description: >-
      The default is empty. For distinguishing between different attribute
      values, the console will not display the value of hidden whitelist packet.
  SecurityIps:
    Type: String
    Description: IP address whitelist to be modified
Outputs:
  SecurityIpGroupName:
    Description: Whitelist group
    Value:
      'Fn::GetAtt':
        - Whitelist
        - SecurityIpGroupName
  SecurityIpGroupAttribute:
    Description: >-
      The default is empty. For distinguishing between different attribute
      values, the console will not display the value of hidden whitelist packet.
    Value:
      'Fn::GetAtt':
        - Whitelist
        - SecurityIpGroupAttribute
  SecurityIps:
    Description: IP address whitelist to be modified
    Value:
      'Fn::GetAtt':
        - Whitelist
        - SecurityIps
```

46.MSE

46.1. ALIYUN::MSE::Cluster

ALIYUN::MSE::Cluster is used to create a cluster.

Syntax

```
{
  "Type": "ALIYUN::MSE::Cluster",
  "Properties": {
    "DiskType": String,
    "InstanceCount": Integer,
    "PrivateSlbSpecification": String,
    "VpcId": String,
    "ClusterVersion": String,
    "PubNetworkFlow": String,
    "ClusterSpecification": String,
    "VSwitchId": String,
    "PubSlbSpecification": String,
    "ClusterType": String,
    "NetType": String,
    "ClusterAliasName": String,
    "DiskCapacity": Integer,
    "ConnectionType": String,
    "RequestPars": String,
    "AclEntryList": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DiskType	String	No	No	The type of the disk.	Set the value to alicloud-disk-ssd-multi-zone.
InstanceCount	Integer	Yes	No	The number of instances.	Valid values: 1 to 9.
PrivateSlbSpecification	String	No	No	The instance type of the internal-facing Server Load Balancer (SLB) instance.	Valid values: • slb.s1.small • slb.s3.medium
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	None
ClusterVersion	String	Yes	No	The version of the cluster.	Valid values: • ZooKeeper_3_4_14 • ZooKeeper_3_5_5 • NACOS_ANS_1_1_3 • EUREKA_1_9_3
PubNetworkFlow	String	No	No	The public bandwidth.	Valid values: 0 to 5000. Unit: Mbit/s. **Note** 0 indicates that the instance is not connected to the Internet.

Property	Type	Required	Editable	Description	Constraint
ClusterSpecification	String	Yes	No	The specifications of the engine.	Valid values: • MSE_SC_1_2_200_c: 1 vCPU and 2 GB memory • MSE_SC_2_4_200_c: 2 vCPUs and 4 GB memory • MSE_SC_4_8_200_c: 4 vCPUs and 8 GB memory • MSE_SC_8_16_200_c: 8 vCPUs and 16 GB memory
VSwitchId	String	No	No	The ID of the vSwitch.	None
PubSlbSpecification	String	No	No	The instance type of the Internet-facing SLB instance.	Valid values: • slb.s1.small • slb.s3.medium
ClusterType	String	Yes	No	The type of the cluster.	Valid values: • ZooKeeper • Nacos-Ans • Eureka
NetType	String	Yes	No	The type of the network.	Valid values: • privatenet: VPC • pubnet: Internet
ClusterAliasName	String	No	Yes	The alias of the cluster.	Fuzzy match is supported.
DiskCapacity	Integer	No	No	The size of the disk.	Valid values: 60 to 600. Unit: GB
ConnectionType	String	No	No	The network connection type of the cluster.	None
RequestPars	String	No	No	The extended request parameters.	The parameters are in the JSON format.
AclEntryList	List	No	Yes	The list of IP addresses in the whitelist.	Separate multiple IP addresses with commas (,).

Response parameters

Fn::GetAtt

- InternetAddress: the public IP address.
- IntranetAddress: the internal IP address.
- AclEntryList: the list of IP addresses in the whitelist.
- Cpu: the number of vCPUs.
- InternetPort: the public port.
- IntranetPort: the internal port.
- DiskType: the disk type.
- AppVersion: the application version.
- PayInfo: the payment type.
- ClusterName: the name of the cluster.
- IntranetDomain: the internal domain name.
- NetType: the network type.
- ClusterVersion: the cluster version.
- InstanceId: the ID of the instance.
- ClusterId: the ID of the cluster.

- InternetDomain: the public domain name.
- AclId: the ID of the access control list (ACL).
- VSwitchId: the ID of the vSwitch.
- ClusterSpecification: the specifications of the engine.
- HealthStatus: the health status.
- MemoryCapacity: the memory capacity.
- ClusterType: the type of the cluster.
- ClusterAliasName: the alias of the cluster.
- InstanceCount: the number of instances.
- DiskCapacity: the disk capacity.
- VpcId: the ID of the VPC.
- PubNetworkFlow: the public bandwidth.
- ConnectionType: the network connection type of the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PrivateSlbSpecification": {
      "Type": "String",
      "Description": ""
    },
    "ClusterVersion": {
      "Type": "String",
      "Description": "cluster version, Enum: ZooKeeper_3_4_14,ZooKeeper_3_5_5,NACOS_ANS_1_1_3,EUREKA_1_9_3"
    },
    "ConnectionType": {
      "Type": "String",
      "Description": "network connect type"
    },
    "AclEntryList": {
      "Type": "Json",
      "Description": "acl entry list"
    },
    "ClusterSpecification": {
      "Type": "String",
      "Description": "cluster specification, Enum: MSE_SC_1_2_200_c,MSE_SC_2_4_200_c,MSE_SC_4_8_200_c,MSE_SC_8_16_200_c"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "switcher Id"
    },
    "PubSlbSpecification": {
      "Type": "String",
      "Description": ""
    },
    "ClusterType": {
      "Type": "String",
      "Description": "cluster type"
    },
    "DiskType": {
      "Type": "String",
      "Description": "disk type"
    },
    "ClusterAliasName": {
      "Type": "String",
      "Description": "cluster alias name"
    },
    "InstanceCount": {
      "Type": "Number",
      "Description": "instance count"
    },
    "DiskCapacity": {
      "Type": "Integer",
      "Description": ""
    },
    "VpcId": {
      "Type": "String"
```

```
      "Type": "String",
      "Description": "vpc id"
    },
    "RequestPars": {
      "Type": "String",
      "Description": ""
    },
    "PubNetworkFlow": {
      "Type": "String",
      "Description": "pub network flow"
    },
    "NetType": {
      "Type": "String",
      "Description": "network type, Enum: privatenet,pubnet"
    }
  },
  "Resources": {
    "MSECluster": {
      "Type": "ALIYUN::MSE::Cluster",
      "Properties": {
        "PrivateSlbSpecification": {
          "Ref": "PrivateSlbSpecification"
        },
        "ClusterVersion": {
          "Ref": "ClusterVersion"
        },
        "ConnectionType": {
          "Ref": "ConnectionType"
        },
        "AclEntryList": {
          "Ref": "AclEntryList"
        },
        "ClusterSpecification": {
          "Ref": "ClusterSpecification"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "PubSlbSpecification": {
          "Ref": "PubSlbSpecification"
        },
        "ClusterType": {
          "Ref": "ClusterType"
        },
        "DiskType": {
          "Ref": "DiskType"
        },
        "ClusterAliasName": {
          "Ref": "ClusterAliasName"
        },
        "InstanceCount": {
          "Ref": "InstanceCount"
        },
        "DiskCapacity": {
          "Ref": "DiskCapacity"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "RequestPars": {
          "Ref": "RequestPars"
        },
        "PubNetworkFlow": {
          "Ref": "PubNetworkFlow"
        },
        "NetType": {
          "Ref": "NetType"
        }
      }
    }
  },
  "Outputs": {
    "InternetAddress": {
      "Description": "internet address",
      "Value": {
```

```
        "Fn::GetAtt": [
          "MSECluster",
          "InternetAddress"
        ]
      }
    },
    "AclEntryList": {
      "Description": "acl entry list",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "AclEntryList"
        ]
      }
    },
    "Cpu": {
      "Description": "cpu core size",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "Cpu"
        ]
      }
    },
    "InternetPort": {
      "Description": "internet port",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "InternetPort"
        ]
      }
    },
    "IntranetPort": {
      "Description": "intranet port",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "IntranetPort"
        ]
      }
    },
    "DiskType": {
      "Description": "disk type",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "DiskType"
        ]
      }
    },
    "AppVersion": {
      "Description": "app version",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "AppVersion"
        ]
      }
    },
    "PayInfo": {
      "Description": "pay info",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "PayInfo"
        ]
      }
    },
    "ClusterName": {
      "Description": "cluster name",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
```

```
          "ClusterName"
        ]
      }
    },
    "IntranetDomain": {
      "Description": "intranet domain",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "IntranetDomain"
        ]
      }
    },
    "NetType": {
      "Description": "network type, Enum: privatenet,pubnet",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "NetType"
        ]
      }
    },
    "ClusterVersion": {
      "Description": "cluster version, Enum: ZooKeeper_3_4_14,ZooKeeper_3_5_5,NACOS_ANS_1_1_3,EUREKA_1_9_3",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "ClusterVersion"
        ]
      }
    },
    "ConnectionType": {
      "Description": "network connect type",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "ConnectionType"
        ]
      }
    },
    "InstanceId": {
      "Description": "instance id",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "InstanceId"
        ]
      }
    },
    "ClusterId": {
      "Description": "cluster id",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "ClusterId"
        ]
      }
    },
    "InternetDomain": {
      "Description": "internet domain",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "InternetDomain"
        ]
      }
    },
    "AclId": {
      "Description": "acl id",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "AclId"
        ]
```

```
      }
    },
    "ClusterSpecification": {
      "Description": "cluster specification, Enum: MSE_SC_1_2_200_c,MSE_SC_2_4_200_c,MSE_SC_4_8_200_c,MSE_SC_8_16_200_c",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "ClusterSpecification"
        ]
      }
    },
    "VSwitchId": {
      "Description": "switcher Id",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "VSwitchId"
        ]
      }
    },
    "HealthStatus": {
      "Description": "health status",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "HealthStatus"
        ]
      }
    },
    "MemoryCapacity": {
      "Description": "memory capacity",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "MemoryCapacity"
        ]
      }
    },
    "ClusterType": {
      "Description": "cluster type",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "ClusterType"
        ]
      }
    },
    "ClusterAliasName": {
      "Description": "cluster alias name",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "ClusterAliasName"
        ]
      }
    },
    "InstanceCount": {
      "Description": "instance count",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "InstanceCount"
        ]
      }
    },
    "IntranetAddress": {
      "Description": "intranet address",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "IntranetAddress"
        ]
      }
    },
```

```
    "DiskCapacity": {
      "Description": "disk capacity, unit: G",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "DiskCapacity"
        ]
      }
    },
    "VpcId": {
      "Description": "vpc id",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "VpcId"
        ]
      }
    },
    "PubNetworkFlow": {
      "Description": "pub network flow",
      "Value": {
        "Fn::GetAtt": [
          "MSECluster",
          "PubNetworkFlow"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AclEntryList:
    Description: acl entry list
    Type: Json
  ClusterAliasName:
    Description: cluster alias name
    Type: String
  ClusterSpecification:
    Description: 'cluster specification, Enum: MSE_SC_1_2_200_c,MSE_SC_2_4_200_c,MSE_SC_4_8_200_c,MSE_SC_8_16_200_c'
    Type: String
  ClusterType:
    Description: cluster type
    Type: String
  ClusterVersion:
    Description: 'cluster version, Enum: ZooKeeper_3_4_14,ZooKeeper_3_5_5,NACOS_ANS_1_1_3,EUREKA_1_9_3'
    Type: String
  ConnectionType:
    Description: network connect type
    Type: String
  DiskCapacity:
    Description: ''
    Type: Integer
  DiskType:
    Description: disk type
    Type: String
  InstanceCount:
    Description: instance count
    Type: Number
  NetType:
    Description: 'network type, Enum: privatenet,pubnet'
    Type: String
  PrivateSlbSpecification:
    Description: ''
    Type: String
  PubNetworkFlow:
    Description: pub network flow
    Type: String
  PubSlbSpecification:
    Description: ''
    Type: String
  RequestPars:
```

```
    Description: ''
    Type: String
  VSwitchId:
    Description: switcher Id
    Type: String
  VpcId:
    Description: vpc id
    Type: String
Resources:
  MSECluster:
    Properties:
      AclEntryList:
        Ref: AclEntryList
      ClusterAliasName:
        Ref: ClusterAliasName
      ClusterSpecification:
        Ref: ClusterSpecification
      ClusterType:
        Ref: ClusterType
      ClusterVersion:
        Ref: ClusterVersion
      ConnectionType:
        Ref: ConnectionType
      DiskCapacity:
        Ref: DiskCapacity
      DiskType:
        Ref: DiskType
      InstanceCount:
        Ref: InstanceCount
      NetType:
        Ref: NetType
      PrivateSlbSpecification:
        Ref: PrivateSlbSpecification
      PubNetworkFlow:
        Ref: PubNetworkFlow
      PubSlbSpecification:
        Ref: PubSlbSpecification
      RequestPars:
        Ref: RequestPars
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
    Type: ALIYUN::MSE::Cluster
Outputs:
  AclEntryList:
    Description: acl entry list
    Value:
      Fn::GetAtt:
      - MSECluster
      - AclEntryList
  AclId:
    Description: acl id
    Value:
      Fn::GetAtt:
      - MSECluster
      - AclId
  AppVersion:
    Description: app version
    Value:
      Fn::GetAtt:
      - MSECluster
      - AppVersion
  ClusterAliasName:
    Description: cluster alias name
    Value:
      Fn::GetAtt:
      - MSECluster
      - ClusterAliasName
  ClusterId:
    Description: cluster id
    Value:
      Fn::GetAtt:
      - MSECluster
```

```
    - ClusterId
  ClusterName:
    Description: cluster name
    Value:
      Fn::GetAtt:
      - MSECluster
      - ClusterName
  ClusterSpecification:
    Description: 'cluster specification, Enum: MSE_SC_1_2_200_c,MSE_SC_2_4_200_c,MSE_SC_4_8_200_c,MSE_SC_8_16_200_c'
    Value:
      Fn::GetAtt:
      - MSECluster
      - ClusterSpecification
  ClusterType:
    Description: cluster type
    Value:
      Fn::GetAtt:
      - MSECluster
      - ClusterType
  ClusterVersion:
    Description: 'cluster version, Enum: ZooKeeper_3_4_14,ZooKeeper_3_5_5,NACOS_ANS_1_1_3,EUREKA_1_9_3'
    Value:
      Fn::GetAtt:
      - MSECluster
      - ClusterVersion
  ConnectionType:
    Description: network connect type
    Value:
      Fn::GetAtt:
      - MSECluster
      - ConnectionType
  Cpu:
    Description: cpu core size
    Value:
      Fn::GetAtt:
      - MSECluster
      - Cpu
  DiskCapacity:
    Description: 'disk capacity, unit: G'
    Value:
      Fn::GetAtt:
      - MSECluster
      - DiskCapacity
  DiskType:
    Description: disk type
    Value:
      Fn::GetAtt:
      - MSECluster
      - DiskType
  HealthStatus:
    Description: health status
    Value:
      Fn::GetAtt:
      - MSECluster
      - HealthStatus
  InstanceCount:
    Description: instance count
    Value:
      Fn::GetAtt:
      - MSECluster
      - InstanceCount
  InstanceId:
    Description: instance id
    Value:
      Fn::GetAtt:
      - MSECluster
      - InstanceId
  InternetAddress:
    Description: internet address
    Value:
      Fn::GetAtt:
      - MSECluster
      - InternetAddress
  InternetDomain:
```

```
    Description: internet domain
    Value:
      Fn::GetAtt:
      - MSECluster
      - InternetDomain
  InternetPort:
    Description: internet port
    Value:
      Fn::GetAtt:
      - MSECluster
      - InternetPort
  IntranetAddress:
    Description: intranet address
    Value:
      Fn::GetAtt:
      - MSECluster
      - IntranetAddress
  IntranetDomain:
    Description: intranet domain
    Value:
      Fn::GetAtt:
      - MSECluster
      - IntranetDomain
  IntranetPort:
    Description: intranet port
    Value:
      Fn::GetAtt:
      - MSECluster
      - IntranetPort
  MemoryCapacity:
    Description: memory capacity
    Value:
      Fn::GetAtt:
      - MSECluster
      - MemoryCapacity
  NetType:
    Description: 'network type, Enum: privatenet,pubnet'
    Value:
      Fn::GetAtt:
      - MSECluster
      - NetType
  PayInfo:
    Description: pay info
    Value:
      Fn::GetAtt:
      - MSECluster
      - PayInfo
  PubNetworkFlow:
    Description: pub network flow
    Value:
      Fn::GetAtt:
      - MSECluster
      - PubNetworkFlow
  VSwitchId:
    Description: switcher Id
    Value:
      Fn::GetAtt:
      - MSECluster
      - VSwitchId
  VpcId:
    Description: vpc id
    Value:
      Fn::GetAtt:
      - MSECluster
      - VpcId
```

To view more examples, visit Cluster.json and Cluster.yml.

46.2. ALIYUN::MSE::Gateway

ALIYUN::MSE::Gateway is used to add a gateway.

Syntax

```
{
  "Type": "ALIYUN::MSE::Gateway",
  "Properties": {
    "BackupVSwitchId": String,
    "EnterpriseSecurityGroup": String,
    "VpcId": String,
    "VSwitchId": String,
    "SlbSpec": String,
    "Spec": String,
    "InternetSlbSpec": String,
    "Replica": Integer,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
BackupVSwitchId	String	No	No	The ID of the secondary vSwitch.	N/A
EnterpriseSecurity Group	Boolean	No	No	Specifies whether the gateway belongs to an advanced security group.	Valid values: • true: The gateway belongs to an advanced security group. • false: The gateway does not belong to an advanced security group.
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC).	N/A
VSwitchId	String	Yes	No	The ID of the primary vSwitch.	N/A
SlbSpec	String	No	No	The instance type of the internal-facing Server Load Balancer (SLB) instance.	Sample value: slb.s2.small.
Spec	String	Yes	No	The specifications of a gateway node.	Valid values: • MSE_GTW_2_4_200_c • MSE_GTW_4_8_200_c • MSE_GTW_8_16_200_c • MSE_GTW_16_32_200_c
InternetSlbSpec	String	No	No	The instance type of the Internet-facing SLB instance.	N/A
Replica	Integer	Yes	No	The number of nodes.	Valid values: 1 to 30. **Note** A gateway is the ingress from which traffic flows in the system. Make sure that the gateway is highly available. We recommend that you use at least two nodes. If only one node is used and it becomes faulty, the system may break down.
Name	String	No	No	The name of the gateway.	N/A

Response parameters

Fn::GetAtt

- GatewayUniqueId: the unique ID of the gateway.
- BackupVSwitchId: the ID of the secondary vSwitch.
- VpcId: the ID of the VPC.
- VSwitchId: the ID of the primary vSwitch.
- PaymentType: the billing method of resources.
- Spec: the specifications of a gateway node.
- Replica: the number of nodes.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VSwitchZoneId": {
      "AssociationProperty": "ALIYUN::ECS::Instance:ZoneId",
      "Type": "String"
    },
    "VpcId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId",
      "Description": "VpcId"
    },
    "VSwitchId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "VpcId": "VpcId",
        "ZoneId": "VSwitchZoneId"
      }
    },
    "Spec": {
      "Type": "String",
      "Description": "Gateway Node Specifications",
      "AllowedValues": [
        "MSE_GTW_2_4_200_c",
        "MSE_GTW_4_8_200_c",
        "MSE_GTW_8_16_200_c",
        "MSE_GTW_16_32_200_c"
      ]
    },
    "Replica": {
      "Type": "Number",
      "Description": "Gateway Node Number",
      "Default": 2
    }
  },
  "Resources": {
    "MSEGateway": {
      "Type": "ALIYUN::MSE::Gateway",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Spec": {
          "Ref": "Spec"
        },
        "Replica": {
          "Ref": "Replica"
        }
      }
    }
  },
  "Outputs": {
    "GatewayUniqueId": {
      "Description": "Gateway unique identification",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway"
```

```
          "MSEGateway",
          "GatewayUniqueId"
        ]
      }
    },
    "BackupVSwitchId": {
      "Description": "VSwitchId For Backup",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway",
          "BackupVSwitchId"
        ]
      }
    },
    "VpcId": {
      "Description": "VpcId",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway",
          "VpcId"
        ]
      }
    },
    "VSwitchId": {
      "Description": "VSwitchId",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway",
          "VSwitchId"
        ]
      }
    },
    "PaymentType": {
      "Description": "The payment type of the resource",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway",
          "PaymentType"
        ]
      }
    },
    "Spec": {
      "Description": "Gateway Node Specifications",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway",
          "Spec"
        ]
      }
    },
    "Replica": {
      "Description": "Gateway Node Number",
      "Value": {
        "Fn::GetAtt": [
          "MSEGateway",
          "Replica"
        ]
      }
    }
  }
}
```

47.MNS

47.1. ALIYUN::MNS::Queue

ALIYUN::MNS::Queue is used to create a queue to contain messages. Queues can be classified into standard and delayed queues.

If the DelaySeconds parameter is not specified when messages are sent, messages that are sent to standard queues can be immediately consumed. However, messages that are sent to delayed queues can be consumed only after the preset delay time.

Syntax

```
{
  "Type": "ALIYUN::MNS::Queue",
  "Properties": {
    "PollingWaitSeconds": Integer,
    "LoggingEnabled": Boolean,
    "MessageRetentionPeriod": Integer,
    "MaximumMessageSize": Integer,
    "DelaySeconds": Integer,
    "VisibilityTimeout": Integer,
    "QueueName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
QueueName	String	Yes	No	The name of the MNS queue.	The name must be unique to an Alibaba Cloud account in a region. The name can be up to 256 characters in length and can contain letters, digits, and hyphens (-). It must start with a letter or digit.
DelaySeconds	Integer	No	Yes	The delay time after which all messages that are sent to the queue can be consumed.	Valid values: 0 to 604800 (7 days). Unit: seconds. Default value: 0.
MaximumMessageSize	Integer	No	Yes	The maximum size of a message that can be sent to the queue.	Valid values: 1024 (1 KB) to 65536 (64 KB). Unit: bytes. Default value: 65536 (64 KB).
MessageRetentionPeriod	Integer	No	Yes	The maximum lifetime of a message in the queue. After the time that is specified by this parameter expires, the message is deleted, regardless of whether the message has been consumed.	Valid values: 60 (1 minute) to 604800 (7 days). Unit: seconds. Default value: 345600 (4 days).
VisibilityTimeout	Integer	No	Yes	The duration for which a message stays in the Inactive state after it is consumed from the queue.	Valid values: 1 to 43200 (12 hours). Unit: seconds. Default value: 30.

Property	Type	Required	Editable	Description	Constraint
PollingWaitSeconds	Integer	No	Yes	The maximum time period that a ReceiveMessage request can wait till a message is in the queue.	Valid values: 0 to 10. Unit: seconds. Default value: 0.
LoggingEnabled	Boolean	No	Yes	Specifies whether to enable the log management feature.	Default value: false. Valid values: • true: The log management feature is enabled. • false: The log management feature is disabled.

Response parameters

Fn::GetAtt

- QueueUrl: the URL of the queue.
- ARN.WithSlash: the ARN of the queue.
- QueueName: the name of the queue.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DelaySeconds": {
      "Type": "Number",
      "Description": "It is measured in seconds. All messages sent to the queue can be consumed until the DelaySeconds expires.
\nAn integer between 0 and 604800 (7 days). The default value is 0",
      "MinValue": 0,
      "MaxValue": 604800,
      "Default": 0
    },
    "PollingWaitSeconds": {
      "Type": "Number",
      "Description": "It is the maximum time that a ReceiveMessage request could be waiting for any incoming messages, while th
ere are no message in the queue. Measured in seconds.\nAn integer between 0 and 30 seconds. The default value is 0 (seconds)",
      "MinValue": 0,
      "MaxValue": 30,
      "Default": 0
    },
    "MessageRetentionPeriod": {
      "Type": "Number",
      "Description": "Maximum lifetime of the message in the queue, measured in seconds. After the time specified by this param
eter expires, the message will be deleted no matter whether it has been consumed or not.\nAn integer between 60 (1 minute) and
1296000 (15 days). The default value is 345600 (4 days)",
      "MinValue": 60,
      "MaxValue": 604800,
      "Default": 345600
    },
    "MaximumMessageSize": {
      "Type": "Number",
      "Description": "Maximum body length of a message sent to the queue, measured in bytes.\nAn integer between 1024 (1K) and
65536 (64K). The default value is 65536 (64K).",
      "MinValue": 1024,
      "MaxValue": 65536,
      "Default": 65536
    },
    "VisibilityTimeout": {
      "Type": "Number",
      "Description": "Duration in which a message stays in Inactive status after it is consumed from the queue. Measured in sec
onds.\nAn integer between 1 and 43200 (12 hours). The default value is 30 (seconds)",
      "MinValue": 1,
      "MaxValue": 43200,
      "Default": 30
    },
    "QueueName": {
      "Type": "String",
      "Description": "Queue name."
```

```
      "Description": "Queue name",
      "MinLength": 1,
      "MaxLength": 256
    },
    "LoggingEnabled": {
      "Type": "Boolean",
      "Description": "Whether to enable log management. \"true\" indicates that log management is enabled, whereas \"false\" in
dicates that log management is disabled. \nThe default value is false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    }
  },
  "Resources": {
    "Queue": {
      "Type": "ALIYUN::MNS::Queue",
      "Properties": {
        "DelaySeconds": {
          "Ref": "DelaySeconds"
        },
        "PollingWaitSeconds": {
          "Ref": "PollingWaitSeconds"
        },
        "MessageRetentionPeriod": {
          "Ref": "MessageRetentionPeriod"
        },
        "MaximumMessageSize": {
          "Ref": "MaximumMessageSize"
        },
        "VisibilityTimeout": {
          "Ref": "VisibilityTimeout"
        },
        "QueueName": {
          "Ref": "QueueName"
        },
        "LoggingEnabled": {
          "Ref": "LoggingEnabled"
        }
      }
    }
  },
  "Outputs": {
    "QueueName": {
      "Description": "Queue name",
      "Value": {
        "Fn::GetAtt": [
          "Queue",
          "QueueName"
        ]
      }
    },
    "ARN": {
      "Description": "The ARN for ALIYUN::ROS::CustomResource",
      "Value": {
        "Fn::GetAtt": [
          "Queue",
          "ARN"
        ]
      }
    },
    "ARN.WithSlash": {
      "Description": "The ARN: acs:mns:$region:$accountid:/queues/$queueName",
      "Value": {
        "Fn::GetAtt": [
          "Queue",
          "ARN.WithSlash"
        ]
      }
    },
    "QueueUrl": {
      "Description": "URL of created queue"
```

```
      "Description": "URL of created queue",
      "Value": {
        "Fn::GetAtt": [
          "Queue",
          "QueueUrl"
        ]
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DelaySeconds:
    Default: 0
    Description: 'It is measured in seconds. All messages sent to the queue can be
      consumed until the DelaySeconds expires.
      An integer between 0 and 604800 (7 days). The default value is 0'
    MaxValue: 604800
    MinValue: 0
    Type: Number
  LoggingEnabled:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: "Whether to enable log management. \"true\" indicates that log management\
      \ is enabled, whereas \"false\" indicates that log management is disabled. \n\
      The default value is false"
    Type: Boolean
  MaximumMessageSize:
    Default: 65536
    Description: 'Maximum body length of a message sent to the queue, measured in
      bytes.
      An integer between 1024 (1K) and 65536 (64K). The default value is 65536 (64K).'
    MaxValue: 65536
    MinValue: 1024
    Type: Number
  MessageRetentionPeriod:
    Default: 345600
    Description: 'Maximum lifetime of the message in the queue, measured in seconds.
      After the time specified by this parameter expires, the message will be deleted
      no matter whether it has been consumed or not.
      An integer between 60 (1 minute) and 1296000 (15 days). The default value is
      345600 (4 days)'
    MaxValue: 604800
    MinValue: 60
    Type: Number
  PollingWaitSeconds:
    Default: 0
    Description: 'It is the maximum time that a ReceiveMessage request could be waiting
      for any incoming messages, while there are no message in the queue. Measured
      in seconds.
      An integer between 0 and 30 seconds. The default value is 0 (seconds)'
    MaxValue: 30
    MinValue: 0
    Type: Number
  QueueName:
    Description: Queue name
    MaxLength: 256
    MinLength: 1
    Type: String
  VisibilityTimeout:
    Default: 30
    Description: 'Duration in which a message stays in Inactive status after it is
      consumed from the queue. Measured in seconds.
      An integer between 1 and 43200 (12 hours). The default value is 30 (seconds)'
    MaxValue: 43200
    MinValue: 1
    Type: Number
```

```
Resources:
  Queue:
    Properties:
      DelaySeconds:
        Ref: DelaySeconds
      LoggingEnabled:
        Ref: LoggingEnabled
      MaximumMessageSize:
        Ref: MaximumMessageSize
      MessageRetentionPeriod:
        Ref: MessageRetentionPeriod
      PollingWaitSeconds:
        Ref: PollingWaitSeconds
      QueueName:
        Ref: QueueName
      VisibilityTimeout:
        Ref: VisibilityTimeout
    Type: ALIYUN::MNS::Queue
Outputs:
  ARN:
    Description: The ARN for ALIYUN::ROS::CustomResource
    Value:
      Fn::GetAtt:
      - Queue
      - ARN
  ARN.WithSlash:
    Description: 'The ARN: acs:mns:$region:$accountid:/queues/$queueName'
    Value:
      Fn::GetAtt:
      - Queue
      - ARN.WithSlash
  QueueName:
    Description: Queue name
    Value:
      Fn::GetAtt:
      - Queue
      - QueueName
  QueueUrl:
    Description: URL of created queue
    Value:
      Fn::GetAtt:
      - Queue
      - QueueUrl
```

For more examples, visit Subscription.json and Subscription.yml. In the examples, the ALIYUN::MNS::Topic, ALIYUN::MNS::Queue, and ALIYUN::MNS::Subscription resource types are involved.

47.2. ALIYUN::MNS::Subscription

ALIYUN::MNS::Subscription is used to subscribe an endpoint to an Alibaba Cloud Message Service (MNS) topic. For a subscription to be created, the owner of the endpoint must confirm the subscription.

Syntax

```
{
  "Type": "ALIYUN::MNS::Subscription",
  "Properties": {
    "Endpoint": String,
    "NotifyStrategy": String,
    "FilterTag": String,
    "NotifyContentFormat": String,
    "SubscriptionName": String,
    "TopicName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
TopicName	String	Yes	No	The name of the topic.	The topic name must be unique within an Alibaba Cloud account in a region. The name can be up to 256 characters in length and can contain letters, digits, and hyphens (-). It must start with a letter.
SubscriptionName	String	Yes	No	The name of the subscription.	The name can be up to 256 characters in length and can contain letters, digits, and hyphens (-). It must start with a letter.
Endpoint	String	Yes	No	The endpoint that the subscriber uses to receive messages.	Valid values: • HttpEndpoint: This type of endpoints must be prefixed with `http://` . • QueueEndpoint: This type of endpoints must be in the `acs:mns:{REGION}:{AccountID}:queues/{QueueName}` format. • MailEndpoint: This type of endpoints must be in the `mail:directmail:{MailAddress}` format. • SmsEndpoint: This type of endpoints must be in the `sms:directsms:anonymous` or `sms:directsms:{Phone}` format.
FilterTag	String	No	No	The message filtering tag in the subscription.	The parameter value can be up to 16 characters in length. By default, no messages are filtered. **Note** Only messages that have consistent tags are pushed.
NotifyStrategy	String	No	Yes	The retry policy that is applied when an error occurs when message is delivered to the endpoint.	Default value: BACKOFF_RETRY. Valid values: • BACKOFF_RETRY • EXPONENTIAL_DECAY_RETRY
NotifyContentFormat	String	No	No	The format of the message content pushed to the endpoint.	Default value: XML. Valid values: • XML • JSON • SIMPLIFIED

Response parameters

Fn::GetAtt

- SubscriptionUrl: the URL of the created subscription.
- SubscriptionName: the name of the subscription.
- TopicName: the name of the topic.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Endpoint": {
      "Type": "String",
      "Description": "Terminal address of the message recipient for the created subscription.\nCurrently, four types of endpoin
```

```
ts are supported: \n1. HttpEndpoint, which must be prefixed with \"http://\"; \n2. QueueEndpoint, in the format of acs:mns:{REG
ION}:{AccountID}:queues/{QueueName}; \n3. MailEndpoint, in the format of mail:directmail:{MailAddress}; \n4. SmsEndpoint, in th
e format of sms:directsms:anonymous or sms:directsms:{Phone}."
    },
    "NotifyStrategy": {
      "Type": "String",
      "Description": "Retry policy that will be applied when an error occurs during message push to the endpoint.\nBACKOFF_RETR
Y or EXPONENTIAL_DECAY_RETRY; default value: BACKOFF_RETRY. For details about retry policies, refer to Basic Concepts/NotifyStr
ategy.",
      "AllowedValues": [
        "BACKOFF_RETRY",
        "EXPONENTIAL_DECAY_RETRY"
      ],
      "Default": "BACKOFF_RETRY"
    },
    "NotifyContentFormat": {
      "Type": "String",
      "Description": "Format of the message content pushed to the endpoint.\nXML, JSON, or SIMPLIFIED; default value: XML. For
details about message formats, refer to Basic Concepts/NotifyContentFormat.",
      "AllowedValues": [
        "XML",
        "JSON",
        "SIMPLIFIED"
      ],
      "Default": "XML"
    },
    "FilterTag": {
      "Type": "String",
      "Description": "Message filter tag in the created subscription (Only messages with consistent tags are pushed.)\nThe valu
e is a string of no more than 16 characters. The default value is no message filter.",
      "MaxLength": 16
    },
    "SubscriptionName": {
      "Type": "String",
      "Description": "Subscription name",
      "MinLength": 1,
      "MaxLength": 256
    },
    "TopicName": {
      "Type": "String",
      "Description": "Topic name",
      "MinLength": 1,
      "MaxLength": 256
    }
  },
  "Resources": {
    "Subscription": {
      "Type": "ALIYUN::MNS::Subscription",
      "Properties": {
        "Endpoint": {
          "Ref": "Endpoint"
        },
        "NotifyStrategy": {
          "Ref": "NotifyStrategy"
        },
        "NotifyContentFormat": {
          "Ref": "NotifyContentFormat"
        },
        "FilterTag": {
          "Ref": "FilterTag"
        },
        "SubscriptionName": {
          "Ref": "SubscriptionName"
        },
        "TopicName": {
          "Ref": "TopicName"
        }
      }
    }
  },
  "Outputs": {
    "SubscriptionUrl": {
      "Description": "URL of created subscription",
      "Value": {
```

```
        "Fn::GetAtt": [
          "Subscription",
          "SubscriptionUrl"
        ]
      }
    },
    "SubscriptionName": {
      "Description": "Subscription name",
      "Value": {
        "Fn::GetAtt": [
          "Subscription",
          "SubscriptionName"
        ]
      }
    },
    "TopicName": {
      "Description": "Topic name",
      "Value": {
        "Fn::GetAtt": [
          "Subscription",
          "TopicName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Endpoint:
    Description: "Terminal address of the message recipient for the created subscription.\n\
      Currently, four types of endpoints are supported: \n1. HttpEndpoint, which must\
      \ be prefixed with \"http://\"; \n2. QueueEndpoint, in the format of acs:mns:{REGION}:{AccountID}:queues/{QueueName};\
      \ \n3. MailEndpoint, in the format of mail:directmail:{MailAddress}; \n4. SmsEndpoint,\
      \ in the format of sms:directsms:anonymous or sms:directsms:{Phone}."
    Type: String
  FilterTag:
    Description: 'Message filter tag in the created subscription (Only messages with
      consistent tags are pushed.)
      The value is a string of no more than 16 characters. The default value is no
      message filter.'
    MaxLength: 16
    Type: String
  NotifyContentFormat:
    AllowedValues:
    - XML
    - JSON
    - SIMPLIFIED
    Default: XML
    Description: 'Format of the message content pushed to the endpoint.
      XML, JSON, or SIMPLIFIED; default value: XML. For details about message formats,
      refer to Basic Concepts/NotifyContentFormat.'
    Type: String
  NotifyStrategy:
    AllowedValues:
    - BACKOFF_RETRY
    - EXPONENTIAL_DECAY_RETRY
    Default: BACKOFF_RETRY
    Description: 'Retry policy that will be applied when an error occurs during message
      push to the endpoint.
      BACKOFF_RETRY or EXPONENTIAL_DECAY_RETRY; default value: BACKOFF_RETRY. For
      details about retry policies, refer to Basic Concepts/NotifyStrategy.'
    Type: String
  SubscriptionName:
    Description: Subscription name
    MaxLength: 256
    MinLength: 1
    Type: String
  TopicName:
    Description: Topic name
    MaxLength: 256
    MinLength: 1
```

```
    Type: String
Resources:
  Subscription:
    Properties:
      Endpoint:
        Ref: Endpoint
      FilterTag:
        Ref: FilterTag
      NotifyContentFormat:
        Ref: NotifyContentFormat
      NotifyStrategy:
        Ref: NotifyStrategy
      SubscriptionName:
        Ref: SubscriptionName
      TopicName:
        Ref: TopicName
    Type: ALIYUN::MNS::Subscription
Outputs:
  SubscriptionName:
    Description: Subscription name
    Value:
      Fn::GetAtt:
      - Subscription
      - SubscriptionName
  SubscriptionUrl:
    Description: URL of created subscription
    Value:
      Fn::GetAtt:
      - Subscription
      - SubscriptionUrl
  TopicName:
    Description: Topic name
    Value:
      Fn::GetAtt:
      - Subscription
      - TopicName
```

For more examples, visit Subscription.json and Subscription.yml. In the examples, the ALIYUN::MNS::Topic, ALIYUN::MNS::Queue, and ALIYUN::MNS::Subscription resource types are involved.

47.3. ALIYUN::MNS::Topic

ALIYUN::MNS::Topic is used to create a topic.

Syntax

```
{
  "Type": "ALIYUN::MNS::Topic",
  "Properties": {
    "LoggingEnabled": Boolean,
    "TopicName": String,
    "MaximumMessageSize": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TopicName	String	Yes	No	The name of the topic.	The name must be unique to an Alibaba Cloud account in a region. The name can be up to 256 characters in length and can contain letters, digits, and hyphens (-). It must start with a letter.

Property	Type	Required	Editable	Description	Constraint
MaximumMessageSize	Integer	No	Yes	The maximum size of a message that can be sent to the topic.	Valid values: 1024 (1 KB) to 65536 (64 KB). Unit: bytes. Default value: 65536 (64 KB).
LoggingEnabled	Boolean	No	Yes	Specifies whether to enable the log management feature.	Default value: false. Valid values: • true: enables the log management feature. • false: disables the log management feature.

Response parameters

Fn::GetAtt

- TopicUrl: the URL of the created topic.
- TopicName: the name of the created topic.
- ARN.WithSlash: The ARN of the created topic.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "MaximumMessageSize": {
      "Type": "Number",
      "Description": "Maximum body length of a message sent to the topic, in the unit of bytes.\nAn integer in the range of 1,0
24 (1 KB) to 65, 536 (64 KB); default value: 65,536 (64 KB).",
      "MinValue": 1024,
      "MaxValue": 65536,
      "Default": 65536
    },
    "LoggingEnabled": {
      "Type": "Boolean",
      "Description": "Whether to enable log management. \"true\" indicates that log management is enabled, whereas \"false\" in
dicates that log management is disabled. \nThe default value is false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "TopicName": {
      "Type": "String",
      "Description": "Topic name",
      "MinLength": 1,
      "MaxLength": 256
    }
  },
  "Resources": {
    "Topic": {
      "Type": "ALIYUN::MNS::Topic",
      "Properties": {
        "MaximumMessageSize": {
          "Ref": "MaximumMessageSize"
        },
        "LoggingEnabled": {
          "Ref": "LoggingEnabled"
        },
        "TopicName": {
          "Ref": "TopicName"
        }
```

```
      }
    }
  },
  "Outputs": {
    "TopicUrl": {
      "Description": "URL of created topic",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "TopicUrl"
        ]
      }
    },
    "ARN": {
      "Description": "The ARN for ALIYUN::ROS::CustomResource",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "ARN.WithSlash"
        ]
      }
    },
    "TopicName": {
      "Description": "Topic name",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "TopicName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  MaximumMessageSize:
    Type: Number
    Description: >-
      Maximum body length of a message sent to the topic, in the unit of bytes.
      An integer in the range of 1,024 (1 KB) to 65, 536 (64 KB); default value:
      65,536 (64 KB).
    MinValue: 1024
    MaxValue: 65536
    Default: 65536
  LoggingEnabled:
    Type: Boolean
    Description: >-
      Whether to enable log management. "true" indicates that log management is
      enabled, whereas "false" indicates that log management is disabled.
      The default value is false
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
  TopicName:
    Type: String
    Description: Topic name
    MinLength: 1
    MaxLength: 256
Resources:
  Topic:
    Type: 'ALIYUN::MNS::Topic'
    Properties:
      MaximumMessageSize:
        Ref: MaximumMessageSize
      LoggingEnabled:
        Ref: LoggingEnabled
      TopicName:
        Ref: TopicName
Outputs:
  TopicUrl:
    Description: URL of created topic
    Value:
      'Fn::GetAtt':
        - Topic
        - TopicUrl
  ARN:
    Description: 'The ARN for ALIYUN::ROS::CustomResource'
    Value:
      'Fn::GetAtt':
        - Topic
        - ARN.WithSlash
  TopicName:
    Description: Topic name
    Value:
      'Fn::GetAtt':
        - Topic
        - TopicName
```

48.MongoDB

48.1. ALIYUN::MONGODB::Instance

ALIYUN::MONGODB::Instance is used to create or clone an ApsaraDB for MongoDB (MongoDB) replica set instance.

Syntax

```
{
  "Type": "ALIYUN::MONGODB::Instance",
  "Properties": {
    "DatabaseNames": String,
    "VpcPasswordFree": Boolean,
    "ReadonlyReplicas": Integer,
    "BusinessInfo": String,
    "AccountPassword": String,
    "VpcId": String,
    "SecurityGroupId": String,
    "AutoRenew": Boolean,
    "ResourceGroupId": String,
    "VSwitchId": String,
    "StorageEngine": String,
    "SrcDBInstanceId": String,
    "ReplicationFactor": Integer,
    "ZoneId": String,
    "EngineVersion": String,
    "RestoreTime": String,
    "DBInstanceStorage": Integer,
    "DBInstanceDescription": String,
    "CouponNo": String,
    "Period": Integer,
    "SecurityIPArray": String,
    "ChargeType": String,
    "BackupId": String,
    "TDEStatus": Boolean,
    "DBInstanceClass": String,
    "NetworkType": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcPasswordFree	Boolean	No	No	Specifies whether to enable password-free access to the instance over a virtual private cloud (VPC).	Valid values: • true: enables password-free access. • false: disables password-free access.
DBInstanceStorage	Integer	Yes	No	The storage capacity of the instance.	Valid values: 10 to 3000. The value must be a multiple of 10. Unit: GB.
DBInstanceClass	String	Yes	No	The type of the instance.	For more information, see Instance types.
TDEStatus	Boolean	No	Yes	Specifies whether to enable Transparent Data Encryption (TDE).	Valid values: • true: enables TDE. Note You cannot disable TDE after you enable TDE. • false (default): disables TDE.

Property	Type	Required	Editable	Description	Constraint
SrcDBInstanceId	String	No	No	The ID of the source instance.	You can specify this parameter only if you call the operation to clone an instance. You must specify this parameter together with the BackupId parameter or the RestoreTime parameter.
DBInstanceDescription	String	No	No	The description of the instance.	The description must be 2 to 256 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The description must start with a letter.
SecurityIPArray	String	No	No	The IP addresses that can access the instance.	Separate IP addresses with commas (,). Each IP address in the whitelist must be unique. The whitelist can contain up to 1,000 IP addresses. Supported formats include 0.0.0.0/0, 10.23.XX.XX (IP address format), and 10.23.XX.XX/24 (CIDR format). /24 specifies the length of the prefix in a CIDR block. The length of a prefix can be 1 to 32. The default value is 0.0.0.0/0, which specifies that all IP addresses can access the instance.
ZoneId	String	No	No	The ID of the zone.	For more information, see DescribeRegions. This parameter must be set to the zone ID of the vSwitch in the VPC.
VpcId	String	No	No	The ID of the VPC.	This parameter is valid only when the NetworkType parameter is set to VPC.
SecurityGroupId	String	No	Yes	The ID of the security group.	None
VSwitchId	String	No	No	The ID of the vSwitch.	This parameter is valid only when the NetworkType parameter is set to VPC.
BackupId	String	No	No	The ID of the backup set.	You can specify this parameter only if you call the operation to clone an instance. You must specify this parameter together with the SrcDBInstanceId parameter.
NetworkType	String	No	No	The network type.	Valid values: • CLASSIC (default): a classic network. • VPC: a VPC.
AccountPassword	String	No	Yes	The password of the root account.	The password must be 6 to 32 characters in length, and can contain letters, digits, and the following special characters: `! # $ % ^ & * ( ) _ + - =` .
EngineVersion	String	No	No	The engine version of the instance.	Valid values: • 3.4 (default) • 4.0 • 4.2

Property	Type	Required	Editable	Description	Constraint
StorageEngine	String	No	No	The storage engine of the instance.	For more information about storage engines and MongoDB versions, see MongoDB versions and storage engines. Valid values: • WiredTiger: applicable to most business scenarios. This is the default value. • RocksDB: applicable to scenarios that require a large number of writes and a few reads. • TerarkDB: applicable to scenarios that require more reads than writes or batch writes and a large number of reads.
ReplicationFactor	Integer	No	No	The number of nodes in the replica set.	Valid values: • 3 (default) • 5 • 7
DatabaseNames	String	No	No	The name of the database.	None
ReadonlyReplicas	Integer	No	No	The number of read-only nodes.	Valid values: 1 to 5.
BusinessInfo	String	No	No	The business information.	This parameter is an additional parameter.
ResourceGroupId	String	No	Yes	The ID of the resource group.	None
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the instance.	Valid values: • true: enables auto-renewal. • false (default): disables auto-renewal for the instance.
RestoreTime	String	No	No	The point in time to which the cloned instance is restored.	The time follows the yyyy-MM-ddTHH:mm:ssZ format and is displayed in UTC. You can specify this parameter only if you call the operation to clone an instance. You must specify this parameter together with the SrcDBInstanceId and BackupId parameters. You can set this parameter to a point in time in the last seven days.
CouponNo	String	No	No	The coupon code.	Default value: youhuiquan_promotion_option_id_for_blank.
Period	Integer	No	No	The subscription period of the instance.	Unit: months. Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Default value: 1. This parameter is valid only when the ChargeType parameter is set to PrePaid.
ChargeType	String	No	No	The billing method of the instance.	Valid values: • PostPaid: pay-as-you-go • PrePaid: subscription

Property	Type	Required	Editable	Description	Constraint
Tags	List	No	Yes	The tags.	You can add up to 20 tags to each instance. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- OrderId: the order ID of the MongoDB instance.
- DBInstanceId: the unique ID of the MongoDB instance.
- DBInstanceStatus: the status of the MongoDB instance.
- ConnectionURI: the connection URI.
- ReplicaSetName: the name of the replica set.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "BusinessInfo": {
      "Type": "String",
      "Description": "The business information. It is an additional parameter."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Indicates whether automatic renewal is enabled for the instance. Valid values:true: Automatic renewal is enabled.false: Automatic renewal is not enabled. You must renew the instance manually.Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "SecurityIPArray": {
      "Type": "String",
      "Description": "Security ips to add or remove."
```

```
    },
    "BackupId": {
      "Type": "String",
      "Description": "Specific backup set Id."
    },
    "StorageEngine": {
      "Type": "String",
      "Description": "Database storage engine.Support WiredTiger, RocksDB, TerarkDB",
      "AllowedValues": [
        "WiredTiger",
        "RocksDB",
        "TerarkDB"
      ],
      "Default": "WiredTiger"
    },
    "RestoreTime": {
      "Type": "String",
      "Description": "The time to restore the cloned instance to. The format is yyyy-MM-ddTHH:mm:ssZ.This parameter can only be
specified when this operation is called to clone instances. You must also specify theSrcDBInstanceIdparameter and theBackupIdpa
rameter.You can clone instances to any restore time in the past seven days."
    },
    "NetworkType": {
      "Type": "String",
      "Description": "The instance network type. Support 'CLASSIC' and 'VPC' only, default is 'CLASSIC'.",
      "AllowedValues": [
        "CLASSIC",
        "VPC"
      ]
    },
    "DBInstanceStorage": {
      "Type": "Number",
      "Description": "Database instance storage size. MongoDB is [5,3000], increased every 10 GB, Unit in GB"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "CouponNo": {
      "Type": "String",
      "Description": "The coupon code. Default value:youhuiquan_promotion_option_id_for_blank."
    },
    "TDEStatus": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable Transparent Data Encryption (TDE). Valid values:\ntrue: enable TDE\nfalse: di
sable TDE (default)\nNote: You cannot disable TDE after it is enabled. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "EngineVersion": {
      "Type": "String",
      "Description": "Database instance version.Support 3.4, 4.0, 4.2",
      "Default": "3.4"
    },
    "ReadonlyReplicas": {
      "Type": "Number",
      "Description": "Number of read-only nodes, in the range of 1-5.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5
      ]
    },
```

```
    "ReplicationFactor": {
      "Type": "Number",
      "Description": "The number of nodes in the replica set. Allowed values: [3, 5, 7], default to 3.",
      "AllowedValues": [
        3,
        5,
        7
      ]
    },
    "ZoneId": {
      "Type": "String",
      "Description": "On which zone to create the instance. If VpcId and VSwitchId is specified, ZoneId is required and VSwitch
should be in same zone."
    },
    "DBInstanceClass": {
      "Type": "String",
      "Description": "MongoDB instance supported instance type, make sure it should be correct."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch Id to create mongodb instance."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "The ID of the ECS security group.\nEach ApsaraDB for MongoDB instance can be added in up to 10 security g
roup. \nYou can call the ECS DescribeSecurityGroup to describe the ID of the security group in the target region."
    },
    "Period": {
      "Type": "Number",
      "Description": "The subscription period of the instance.Default Unit: Month.Valid values: [1~9], 12, 24, 36. Default to 1
.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36
      ],
      "Default": 1
    },
    "VpcPasswordFree": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable password free for access within the VPC. If set to:\n- true: enables password
free.\n- false: disables password free.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "AccountPassword": {
      "Type": "String",
      "Description": "Root account password, can contain the letters, numbers or underscores the composition, length of 6~32 bi
t."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create mongodb instance."
    },
    "ChargeType": {
      "Type": "String",
      "Description": "The billing method of the instance.values:PostPaid: Pay-As-You-Go.PrePaid: Subscription.Default value: Po
stPaid",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
```

```
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "DatabaseNames": {
      "Type": "String",
      "Description": "The name of the database."
    },
    "SrcDBInstanceId": {
      "Type": "String",
      "Description": "Create an instance of the backup set based on an instance."
    }
  },
  "Resources": {
    "MongoDBInstance": {
      "Type": "ALIYUN::MONGODB::Instance",
      "Properties": {
        "BusinessInfo": {
          "Ref": "BusinessInfo"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "SecurityIPArray": {
          "Ref": "SecurityIPArray"
        },
        "BackupId": {
          "Ref": "BackupId"
        },
        "StorageEngine": {
          "Ref": "StorageEngine"
        },
        "RestoreTime": {
          "Ref": "RestoreTime"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "DBInstanceStorage": {
          "Ref": "DBInstanceStorage"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "CouponNo": {
          "Ref": "CouponNo"
        },
        "TDEStatus": {
          "Ref": "TDEStatus"
        },
        "EngineVersion": {
          "Ref": "EngineVersion"
        },
        "ReadonlyReplicas": {
          "Ref": "ReadonlyReplicas"
        },
        "ReplicationFactor": {
          "Ref": "ReplicationFactor"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "DBInstanceClass": {
```

```
          "Ref": "DBInstanceClass"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "Period": {
          "Ref": "Period"
        },
        "VpcPasswordFree": {
          "Ref": "VpcPasswordFree"
        },
        "AccountPassword": {
          "Ref": "AccountPassword"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "DatabaseNames": {
          "Ref": "DatabaseNames"
        },
        "SrcDBInstanceId": {
          "Ref": "SrcDBInstanceId"
        }
      }
    }
  },
  "Outputs": {
    "DBInstanceStatus": {
      "Description": "Status of mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDBInstance",
          "DBInstanceStatus"
        ]
      }
    },
    "DBInstanceId": {
      "Description": "The instance id of created mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDBInstance",
          "DBInstanceId"
        ]
      }
    },
    "ConnectionURI": {
      "Description": "Connection uri.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDBInstance",
          "ConnectionURI"
        ]
      }
    },
    "ReplicaSetName": {
      "Description": "Name of replica set",
      "Value": {
        "Fn::GetAtt": [
          "MongoDBInstance",
          "ReplicaSetName"
        ]
      }
    },
    "OrderId": {
      "Description": "Order Id of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDBInstance",
```

```
          "OrderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccountPassword:
    Description: Root account password, can contain the letters, numbers or underscores
      the composition, length of 6~32 bit.
    Type: String
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Indicates whether automatic renewal is enabled for the instance.
      Valid values:true: Automatic renewal is enabled.false: Automatic renewal is
      not enabled. You must renew the instance manually.Default value: false.'
    Type: Boolean
  BackupId:
    Description: Specific backup set Id.
    Type: String
  BusinessInfo:
    Description: The business information. It is an additional parameter.
    Type: String
  ChargeType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: PostPaid
    Description: 'The billing method of the instance.values:PostPaid: Pay-As-You-Go.PrePaid:
      Subscription.Default value: PostPaid'
    Type: String
  CouponNo:
    Description: The coupon code. Default value:youhuiquan_promotion_option_id_for_blank.
    Type: String
  DBInstanceClass:
    Description: MongoDB instance supported instance type, make sure it should be
      correct.
    Type: String
  DBInstanceDescription:
    Description: Description of created database instance.
    Type: String
  DBInstanceStorage:
    Description: Database instance storage size. MongoDB is [5,3000], increased every
      10 GB, Unit in GB
    Type: Number
  DatabaseNames:
    Description: The name of the database.
    Type: String
  EngineVersion:
    Default: '3.4'
    Description: Database instance version.Support 3.4, 4.0, 4.2
    Type: String
  NetworkType:
    AllowedValues:
    - CLASSIC
    - VPC
    Description: The instance network type. Support 'CLASSIC' and 'VPC' only, default
      is 'CLASSIC'.
    Type: String
```

```
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    Default: 1
    Description: 'The subscription period of the instance.Default Unit: Month.Valid
      values: [1~9], 12, 24, 36. Default to 1.'
    Type: Number
  ReadonlyReplicas:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    Description: Number of read-only nodes, in the range of 1-5.
    Type: Number
  ReplicationFactor:
    AllowedValues:
    - 3
    - 5
    - 7
    Description: 'The number of nodes in the replica set. Allowed values: [3, 5, 7],
      default to 3.'
    Type: Number
  ResourceGroupId:
    Description: The ID of the resource group.
    Type: String
  RestoreTime:
    Description: The time to restore the cloned instance to. The format is yyyy-MM-ddTHH:mm:ssZ.This
      parameter can only be specified when this operation is called to clone instances.You
      must also specify theSrcDBInstanceIdparameter and theBackupIdparameter.You can
      clone instances to any restore time in the past seven days.
    Type: String
  SecurityGroupId:
    Description: "The ID of the ECS security group.\nEach ApsaraDB for MongoDB instance\
      \ can be added in up to 10 security group. \nYou can call the ECS DescribeSecurityGroup\
      \ to describe the ID of the security group in the target region."
    Type: String
  SecurityIPArray:
    Description: Security ips to add or remove.
    Type: String
  SrcDBInstanceId:
    Description: Create an instance of the backup set based on an instance.
    Type: String
  StorageEngine:
    AllowedValues:
    - WiredTiger
    - RocksDB
    - TerarkDB
    Default: WiredTiger
    Description: Database storage engine.Support WiredTiger, RocksDB, TerarkDB
    Type: String
  TDEStatus:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable Transparent Data Encryption (TDE). Valid
      values:
      true: enable TDE
      false: disable TDE (default)
      Note: You cannot disable TDE after it is enabled. '
```

```
    Type: Boolean
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: The vSwitch Id to create mongodb instance.
    Type: String
  VpcId:
    Description: The VPC id to create mongodb instance.
    Type: String
  VpcPasswordFree:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable password free for access within the
      VPC. If set to:
      - true: enables password free.
      - false: disables password free.'
    Type: Boolean
  ZoneId:
    Description: On which zone to create the instance. If VpcId and VSwitchId is specified,
      ZoneId is required and VSwitch should be in same zone.
    Type: String
Resources:
  MongoDBInstance:
    Properties:
      AccountPassword:
        Ref: AccountPassword
      AutoRenew:
        Ref: AutoRenew
      BackupId:
        Ref: BackupId
      BusinessInfo:
        Ref: BusinessInfo
      ChargeType:
        Ref: ChargeType
      CouponNo:
        Ref: CouponNo
      DBInstanceClass:
        Ref: DBInstanceClass
      DBInstanceDescription:
        Ref: DBInstanceDescription
      DBInstanceStorage:
        Ref: DBInstanceStorage
      DatabaseNames:
        Ref: DatabaseNames
      EngineVersion:
        Ref: EngineVersion
      NetworkType:
        Ref: NetworkType
      Period:
        Ref: Period
      ReadonlyReplicas:
        Ref: ReadonlyReplicas
      ReplicationFactor:
        Ref: ReplicationFactor
      ResourceGroupId:
        Ref: ResourceGroupId
      RestoreTime:
        Ref: RestoreTime
      SecurityGroupId:
        Ref: SecurityGroupId
      SecurityIPArray:
        Ref: SecurityIPArray
      SrcDBInstanceId:
        Ref: SrcDBInstanceId
      StorageEngine:
        Ref: StorageEngine
      TDEStatus:
        Ref: TDEStatus
```

```
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      VpcPasswordFree:
        Ref: VpcPasswordFree
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::MONGODB::Instance
Outputs:
  ConnectionURI:
    Description: Connection uri.
    Value:
      Fn::GetAtt:
      - MongoDBInstance
      - ConnectionURI
  DBInstanceId:
    Description: The instance id of created mongodb instance.
    Value:
      Fn::GetAtt:
      - MongoDBInstance
      - DBInstanceId
  DBInstanceStatus:
    Description: Status of mongodb instance.
    Value:
      Fn::GetAtt:
      - MongoDBInstance
      - DBInstanceStatus
  OrderId:
    Description: Order Id of created instance.
    Value:
      Fn::GetAtt:
      - MongoDBInstance
      - OrderId
  ReplicaSetName:
    Description: Name of replica set
    Value:
      Fn::GetAtt:
      - MongoDBInstance
      - ReplicaSetName
```

To view more examples, see MongoDBInstance.json and MongoDBInstance.yml.

48.2. ALIYUN::MONGODB::ServerlessInstance

ALIYUN::MONGODB::ServerlessInstance is used to create an ApsaraDB for MongoDB (Serverless) instance.

Syntax

```
{
  "Type": "ALIYUN::MONGODB::ServerlessInstance",
  "Properties": {
    "EngineVersion": String,
    "ZoneId": String,
    "ResourceGroupId": String,
    "AutoRenew": Boolean,
    "VSwitchId": String,
    "PeriodPriceType": String,
    "Period": Integer,
    "SecurityIPArray": String,
    "StorageEngine": String,
    "AccountPassword": String,
    "VpcId": String,
    "ChargeType": String,
    "NetworkType": String,
    "DBInstanceStorage": Integer,
    "DBInstanceDescription": String,
    "TDEStatus": Boolean
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
EngineVersion	String	No	No	The engine version of the instance.	Set the value to 4.2.
ZoneId	String	No	No	The ID of the zone.	None
ResourceGroupId	String	No	Yes	The ID of the resource group.	None
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the instance.	Default value: false. Valid values: • true: enables auto-renewal for the instance. • false: does not enable auto-renewal for the instance.
VSwitchId	String	No	No	The ID of the vSwitch.	None
PeriodPriceType	String	No	No	The unit of the billing cycle.	Valid values: • Day • Month
Period	Integer	No	No	The subscription duration of the instance.	• Valid values if you set PeriodPriceType to Day: 1, 7, and 14. • Valid values if you set PeriodPriceType to Month: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, and 60. Unit: months.
SecurityIPArray	String	No	No	The IP addresses in the whitelist of the instance.	Separate multiple IP addresses with commas (,). Each IP address must be unique in the whitelist. The whitelist can contain up to 1,000 IP addresses. You can enter IP addresses such as 10.23.XX.XX and CIDR blocks such as 10.23.XX.XX/24. /24 indicates that the prefix of the CIDR block is 24 bits in length. You can replace 24 with a value that ranges from 1 to 32. You can also enter the percent sign (%) or 0.0.0.0/0. **Note** If you enter the percent sign (%) or 0.0.0.0/0, all IP addresses can access the instance. This may cause security risks to the instance. Proceed with caution.
StorageEngine	String	No	No	The storage engine that is used by the instance.	Set the value to WiredTiger. For more information about storage engines and MongoDB versions, see MongoDB versions and storage engines.

Property	Type	Required	Editable	Description	Constraint
AccountPassword	String	No	Yes	The password that is used to connect to the database.	The password must be 8 to 32 characters in length. The password must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `! # $ % ^ \ & * ( ) _ + - =` . **Note** ApsaraDB for MongoDB (Serverless) instances provide a default database logon account. You cannot change the account but you can change the password of the account.
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	None
ChargeType	String	No	No	The billing method of the instance.	Set the value to PrePaid.
NetworkType	String	No	No	The network type of the instance. The network type of an ApsaraDB for MongoDB (Serverless) instance must be VPC.	Set the value to VPC.
DBInstanceStorage	Integer	Yes	No	The storage capacity of the instance.	Valid values: 1 to 10. Unit: GB.
DBInstanceDescription	String	No	No	The description of the instance.	The description must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens (-). The description must start with a letter.
TDEStatus	Boolean	No	Yes	Specifies whether to enable Transparent Data Encryption (TDE).	Default value: false. Valid values: • true: enables TDE. **Note** You cannot disable TDE after you enable it. • false: does not enable TDE.
Tags	List	No	Yes	The tags of the instance.	You can add up to 20 tags. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- DBInstanceStatus: the status of the instance.
- DBInstanceId: the ID of the instance.
- ConnectionURI: the connection string of the instance.
- OrderId: the ID of the order.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TDEStatus": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable Transparent Data Encryption (TDE). Valid values:\ntrue: enable TDE\nfalse: di
sable TDE (default)\nNote: You cannot disable TDE after it is enabled. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "EngineVersion": {
      "Type": "String",
      "Description": "Database instance version.Support 4.2",
      "Default": "4.2"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "On which zone to create the instance. If VpcId and VSwitchId is specified, ZoneId is required and VSwitch
should be in same zone."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch Id to create mongodb instance."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Indicates whether automatic renewal is enabled for the instance. Valid values:true: Automatic renewal is
enabled.false: Automatic renewal is not enabled. You must renew the instance manually.Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Period": {
      "Type": "Number",
      "Description": "The subscription period of the instance.Default Unit: Month.Valid values: [1~9], 12, 24, 36. Default to 1
```

```
.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36
      ],
      "Default": 1
    },
    "SecurityIPArray": {
      "Type": "String",
      "Description": "Security ips to add or remove."
    },
    "StorageEngine": {
      "Type": "String",
      "Description": "Database storage engine.Support WiredTiger",
      "AllowedValues": [
        "WiredTiger"
      ],
      "Default": "WiredTiger"
    },
    "AccountPassword": {
      "Type": "String",
      "Description": "Root account password, can contain the letters, numbers or underscores the composition, length of 6~32 bi
t."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create mongodb instance."
    },
    "ChargeType": {
      "Type": "String",
      "Description": "The billing method of the instance.values:PostPaid: Pay-As-You-Go.PrePaid: Subscription.Default value: Po
stPaid",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "NetworkType": {
      "Type": "String",
      "Description": "The instance network type. Support 'CLASSIC' and 'VPC' only, default is 'CLASSIC'.",
      "AllowedValues": [
        "CLASSIC",
        "VPC"
      ]
    },
    "DBInstanceStorage": {
      "Type": "Number",
      "Description": "Database instance storage size. MongoDB is [1,10], increased every 1 GB, Unit in GB"
    },
    "PeriodPriceType": {
      "Type": "String",
      "Description": "Charge period for created instance.",
      "AllowedValues": [
        "Day",
        "Month"
      ]
    },
    "DBInstanceDescription": {
```

```
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "MongoDbServerlessInstance": {
      "Type": "ALIYUN::MONGODB::ServerlessInstance",
      "Properties": {
        "TDEStatus": {
          "Ref": "TDEStatus"
        },
        "EngineVersion": {
          "Ref": "EngineVersion"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "Period": {
          "Ref": "Period"
        },
        "SecurityIPArray": {
          "Ref": "SecurityIPArray"
        },
        "StorageEngine": {
          "Ref": "StorageEngine"
        },
        "AccountPassword": {
          "Ref": "AccountPassword"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "DBInstanceStorage": {
          "Ref": "DBInstanceStorage"
        },
        "PeriodPriceType": {
          "Ref": "PeriodPriceType"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "DBInstanceStatus": {
      "Description": "Status of mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbServerlessInstance",
```

```
          "DBInstanceStatus"
        ]
      }
    },
    "DBInstanceId": {
      "Description": "The instance id of created mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbServerlessInstance",
          "DBInstanceId"
        ]
      }
    },
    "ConnectionURI": {
      "Description": "Connection uri.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbServerlessInstance",
          "ConnectionURI"
        ]
      }
    },
    "OrderId": {
      "Description": "Order Id of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbServerlessInstance",
          "OrderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccountPassword:
    Description: Root account password, can contain the letters, numbers or underscores
      the composition, length of 6~32 bit.
    Type: String
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Indicates whether automatic renewal is enabled for the instance.
      Valid values:true: Automatic renewal is enabled.false: Automatic renewal is
      not enabled. You must renew the instance manually.Default value: false.'
    Type: Boolean
  ChargeType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: PostPaid
    Description: 'The billing method of the instance.values:PostPaid: Pay-As-You-Go.PrePaid:
      Subscription.Default value: PostPaid'
    Type: String
  DBInstanceDescription:
    Description: Description of created database instance.
    Type: String
  DBInstanceStorage:
    Description: Database instance storage size. MongoDB is [1,10], increased every
      1 GB, Unit in GB
    Type: Number
```

```
  EngineVersion:
    Default: '4.2'
    Description: Database instance version.Support 4.2
    Type: String
  NetworkType:
    AllowedValues:
    - CLASSIC
    - VPC
    Description: The instance network type. Support 'CLASSIC' and 'VPC' only, default
      is 'CLASSIC'.
    Type: String
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    Default: 1
    Description: 'The subscription period of the instance.Default Unit: Month.Valid
      values: [1~9], 12, 24, 36. Default to 1.'
    Type: Number
  PeriodPriceType:
    AllowedValues:
    - Day
    - Month
    Description: Charge period for created instance.
    Type: String
  ResourceGroupId:
    Description: The ID of the resource group.
    Type: String
  SecurityIPArray:
    Description: Security ips to add or remove.
    Type: String
  StorageEngine:
    AllowedValues:
    - WiredTiger
    Default: WiredTiger
    Description: Database storage engine.Support WiredTiger
    Type: String
  TDEStatus:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable Transparent Data Encryption (TDE). Valid
      values:
      true: enable TDE
      false: disable TDE (default)
      Note: You cannot disable TDE after it is enabled. '
    Type: Boolean
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: The vSwitch Id to create mongodb instance.
    Type: String
  VpcId:
    Description: The VPC id to create mongodb instance.
    Type: String
  ZoneId:
    Description: On which zone to create the instance. If VpcId and VSwitchId is specified,
      ZoneId is required and VSwitch should be in same zone.
    Type: String
```

```
Resources:
  MongoDbServerlessInstance:
    Properties:
      AccountPassword:
        Ref: AccountPassword
      AutoRenew:
        Ref: AutoRenew
      ChargeType:
        Ref: ChargeType
      DBInstanceDescription:
        Ref: DBInstanceDescription
      DBInstanceStorage:
        Ref: DBInstanceStorage
      EngineVersion:
        Ref: EngineVersion
      NetworkType:
        Ref: NetworkType
      Period:
        Ref: Period
      PeriodPriceType:
        Ref: PeriodPriceType
      ResourceGroupId:
        Ref: ResourceGroupId
      SecurityIPArray:
        Ref: SecurityIPArray
      StorageEngine:
        Ref: StorageEngine
      TDEStatus:
        Ref: TDEStatus
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::MONGODB::ServerlessInstance
Outputs:
  ConnectionURI:
    Description: Connection uri.
    Value:
      Fn::GetAtt:
      - MongoDbServerlessInstance
      - ConnectionURI
  DBInstanceId:
    Description: The instance id of created mongodb instance.
    Value:
      Fn::GetAtt:
      - MongoDbServerlessInstance
      - DBInstanceId
  DBInstanceStatus:
    Description: Status of mongodb instance.
    Value:
      Fn::GetAtt:
      - MongoDbServerlessInstance
      - DBInstanceStatus
  OrderId:
    Description: Order Id of created instance.
    Value:
      Fn::GetAtt:
      - MongoDbServerlessInstance
      - OrderId
```

To view more examples, visit ServerlessInstance.json and ServerlessInstance.yml.

48.3. ALIYUN::MONGODB::ShardingInstance

ALIYUN::MONGODB::ShardingInstance is used to create or clone an ApsaraDB for MongoDB sharded cluster instance.

Syntax

```
{
  "Type": "ALIYUN::MONGODB::ShardingInstance",
  "Properties": {
    "EngineVersion": String,
    "ZoneId": String,
    "AutoRenew": Boolean,
    "VSwitchId": String,
    "Period": Integer,
    "SecurityIPArray": String,
    "Mongos": List,
    "StorageEngine": String,
    "RestoreTime": String,
    "AccountPassword": String,
    "VpcId": String,
    "ProtocolType": String,
    "ChargeType": String,
    "NetworkType": String,
    "ConfigServer": List,
    "SrcDBInstanceId": String,
    "ReplicaSet": List,
    "Tags": List,
    "TDEStatus": Boolean,
    "DBInstanceDescription": String,
    "ResourceGroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
EngineVersion	String	No	No	The version of the database engine.	Valid values: • 3.4 • 4.0 • 4.2 **Note** When you clone an instance, the value of this property must be the same as that of the source instance.
ZoneId	String	No	No	The ID of the zone.	None
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the instance.	Default value: false. Valid values: • true: enables auto-renewal for the instance. • false: does not enable auto-renewal for the instance. **Note** This property takes effect only if you set the ChargeType property to PrePaid.
VSwitchId	String	No	No	The vSwitch ID of the instance.	This property takes effect only if you set the NetworkType property to VPC.
Period	Integer	No	No	The subscription duration of the instance.	Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Unit: months. **Note** This property is required and can take effect only if you set the ChargeType property to PrePaid.

Property	Type	Required	Editable	Description	Constraint
SecurityIPArray	String	No	No	The IP addresses in the whitelist that can access the instance.	Separate multiple IP addresses with commas (,). Each IP address in the whitelist must be unique. The whitelist can contain up to 1,000 IP addresses. Specify IP addresses in the following formats: • % • 0.0.0.0/0 • 10.23.XX.XX. This is a standard IP address. • 10.23.XX.XX/24. This is a CIDR block. /24 indicates that the prefix of the CIDR block is 24 bits in length. You can replace 24 with a value that ranges from 1 to 32. **Note** If you enter the percent sign (%) or 0.0.0.0/0, all IP addresses can access the instance. This may cause security risks to the instance. Proceed with caution.
Mongos	List	Yes	No	The mongos nodes.	Number of nodes: 2 to 32. For more information, see Mongos properties.
StorageEngine	String	No	No	The storage engine that is used by the instance.	Default value: WiredTiger. Valid values: • WiredTiger: suitable for most business scenarios. • RocksDB: suitable for scenarios in which a large number of write operations and few read operations are performed. • TerarkDB: suitable for scenarios in which more read operations are performed than write operations or scenarios in which batch write operations and a large number of read operations are performed. **Note** When you clone an instance, the value of this property must be the same as that of the source instance.
RestoreTime	String	No	No	The point in time at which the cloned instance is restored.	Specify the time in the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC. You can set this property only when you clone an instance. You must set this property together with the SrcDBInstanceId property. **Note** You can specify a point in time in the previous seven days at which the cloned instance is restored.
AccountPassword	String	No	Yes	The password of the root user.	The password must be 8 to 32 characters in length and must contain at least three of the following types of characters: uppercase letters, lowercase letters, digits, and special characters. Special characters include `! # $ % ^ & * ( ) _ + - =` .

Property	Type	Required	Editable	Description	Constraint
VpcId	String	No	No	The ID of the VPC.	This property is available only if you set the NetworkType property to VPC.
ProtocolType	String	No	No	The type of the access protocol.	Valid values: • mongodb • dynamodb
ChargeType	String	No	No	The billing method of the instance.	Default value: PostPaid. Valid values: • PostPaid: pay-as-you-go • PrePaid: subscription Note If you set this property to PrePaid, you must also set the Period property.
NetworkType	String	No	No	The network type of the instance.	Default value: CLASSIC. Valid values: • CLASSIC • VPC Note If you set this property to VPC, you must also set the VpcId and VSwitchId properties.
ConfigServer	List	Yes	No	The ConfigServer configurations.	For more information, see ConfigServer properties.
SrcDBInstanceId	String	No	No	The ID of the source instance.	You can set this property only when you clone an instance. You must set this property together with the RestoreTime property.
ReplicaSet	List	Yes	No	The shard nodes.	Number of nodes: 2 to 32. For more information, see ReplicaSet properties.
Tags	List	No	Yes	The tags of the instance.	You can add up to 20 tags. For more information, see Tags properties.
TDEStatus	Boolean	No	Yes	Specifies whether to enable Transparent Data Encryption (TDE).	Default value: false. Valid values: • true: enables TDE. Note You cannot disable TDE after you enable it. • false: does not enable TDE.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the instance belongs.	None
DBInstanceDescription	String	No	No	The name of the instance.	The name must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens (-). The name must start with a letter.

Mongos syntax

```
"Mongos": [
  {
    "Class": String
  }
]
```

Mongos properties

Property	Type	Required	Editable	Description	Constraint
Class	String	Yes	No	The instance type of the mongos node.	For more information, see Instance types.

ConfigServer syntax

```
"ConfigServer": [
  {
    "Storage": Integer,
    "Class": String
  }
]
```

ConfigServer properties

Property	Type	Required	Editable	Description	Constraint
Storage	Integer	Yes	No	The storage capacity of the ConfigServer node.	Set the value to 20. Unit: GB. **Note** The storage capacity is 20 GB and cannot be changed.
Class	String	Yes	No	The instance type of the ConfigServer node.	Set the value to dds.cs.mid. **Note** This instance type has 1 vCPU and 2 GB memory. The number of ConfigServer nodes is fixed as 1.

ReplicaSet syntax

```
"ReplicaSet": [
  {
    "Storage": Integer,
    "Class": String
  }
]
```

ReplicaSet properties

Property	Type	Required	Editable	Description	Constraint
Storage	Integer	Yes	No	The storage space of the shard node.	Valid values: 10 to 2000. Unit: GB. You can adjust the value only in increments of 10 GB.
Class	String	Yes	No	The instance type of the shard node.	For more information, see Instance types.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- DBInstanceStatus: the status of the instance.
- DBInstanceId: the ID of the instance.
- OrderId: the ID of the order.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TDEStatus": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable Transparent Data Encryption (TDE). Valid values:\ntrue: enable TDE\nfalse: di
sable TDE (default)\nNote: You cannot disable TDE after it is enabled. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "EngineVersion": {
      "Type": "String",
      "Description": "Database instance version.Support 3.4, 4.0, 4.2",
      "Default": "3.4"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "On which zone to create the instance. If VpcId and VSwitchId is specified, ZoneId is required and VSwitch
should be in same zone."
    },
    "ResourceGroupId": {
       "Type": "String",
       "Description": "The ID of the resource group."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Indicates whether automatic renewal is enabled for the instance. Valid values:true: Automatic renewal is
enabled.false: Automatic renewal is not enabled. You must renew the instance manually.Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
```

```
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch Id to create mongodb instance."
    },
    "Period": {
      "Type": "Number",
      "Description": "The subscription period of the instance.Default Unit: Month.Valid values: [1~9], 12, 24, 36. Default to 1
.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36
      ],
      "Default": 1
    },
    "SecurityIPArray": {
      "Type": "String",
      "Description": "Security ips to add or remove."
    },
    "Mongos": {
      "Type": "Json",
      "Description": "",
      "MinLength": 2,
      "MaxLength": 32
    },
    "StorageEngine": {
      "Type": "String",
      "Description": "Database storage engine.Support WiredTiger, RocksDB, TerarkDB",
      "AllowedValues": [
        "WiredTiger",
        "RocksDB",
        "TerarkDB"
      ],
      "Default": "WiredTiger"
    },
    "RestoreTime": {
      "Type": "String",
      "Description": "The time to restore the cloned instance to. The format is yyyy-MM-ddTHH:mm:ssZ.This parameter can only be
specified when this operation is called to clone instances. You must also specify theSrcDBInstanceIdparameter and theBackupIdpa
rameter.You can clone instances to any restore time in the past seven days."
    },
    "AccountPassword": {
      "Type": "String",
      "Description": "Root account password, can contain the letters, numbers or underscores the composition, length of 6~32 bi
t."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create mongodb instance."
    },
    "ProtocolType": {
      "Type": "String",
      "Description": "Protocol type. Valid value: mongodb or dynamodb.",
      "AllowedValues": [
        "mongodb",
        "dynamodb"
      ]
    },
    "ChargeType": {
      "Type": "String",
      "Description": "The billing method of the instance.values:PostPaid: Pay-As-You-Go.PrePaid: Subscription.Default value: Po
stPaid",
      "AllowedValues": [
        "Subscription",
```

```
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "PostPaid"
    },
    "NetworkType": {
      "Type": "String",
      "Description": "The instance network type. Support 'CLASSIC' and 'VPC' only, default is 'CLASSIC'.",
      "AllowedValues": [
        "CLASSIC",
        "VPC"
      ]
    },
    "ConfigServer": {
      "Type": "Json",
      "Description": "",
      "MinLength": 1,
      "MaxLength": 1
    },
    "SrcDBInstanceId": {
      "Type": "String",
      "Description": "Create an instance of the backup set based on an instance."
    },
    "ReplicaSet": {
      "Type": "Json",
      "Description": "",
      "MinLength": 2,
      "MaxLength": 32
    },
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "MongoDbShardingInstance": {
      "Type": "ALIYUN::MONGODB::ShardingInstance",
      "Properties": {
        "TDEStatus": {
          "Ref": "TDEStatus"
        },
        "EngineVersion": {
          "Ref": "EngineVersion"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Period": {
          "Ref": "Period"
        },
        "SecurityIPArray": {
          "Ref": "SecurityIPArray"
        },
        "Mongos": {
          "Ref": "Mongos"
        },
        "StorageEngine": {
```

```
          "Ref": "StorageEngine"
        },
        "RestoreTime": {
          "Ref": "RestoreTime"
        },
        "AccountPassword": {
          "Ref": "AccountPassword"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "ProtocolType": {
          "Ref": "ProtocolType"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "ConfigServer": {
          "Ref": "ConfigServer"
        },
        "SrcDBInstanceId": {
          "Ref": "SrcDBInstanceId"
        },
        "ReplicaSet": {
          "Ref": "ReplicaSet"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "DBInstanceStatus": {
      "Description": "Status of mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbShardingInstance",
          "DBInstanceStatus"
        ]
      }
    },
    "DBInstanceId": {
      "Description": "The instance id of created mongodb instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbShardingInstance",
          "DBInstanceId"
        ]
      }
    },
    "OrderId": {
      "Description": "Order Id of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDbShardingInstance",
          "OrderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccountPassword:
```

```
    Description: Root account password, can contain the letters, numbers or underscores
      the composition, length of 6~32 bit.
    Type: String
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Indicates whether automatic renewal is enabled for the instance.
      Valid values:true: Automatic renewal is enabled.false: Automatic renewal is
      not enabled. You must renew the instance manually.Default value: false.'
    Type: Boolean
  ChargeType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: PostPaid
    Description: 'The billing method of the instance.values:PostPaid: Pay-As-You-Go.PrePaid:
      Subscription.Default value: PostPaid'
    Type: String
  ConfigServer:
    Description: ''
    MaxLength: 1
    MinLength: 1
    Type: Json
  DBInstanceDescription:
    Description: Description of created database instance.
    Type: String
  EngineVersion:
    Default: '3.4'
    Description: Database instance version.Support 3.4, 4.0, 4.2
    Type: String
  Mongos:
    Description: ''
    MaxLength: 32
    MinLength: 2
    Type: Json
  NetworkType:
    AllowedValues:
    - CLASSIC
    - VPC
    Description: The instance network type. Support 'CLASSIC' and 'VPC' only, default
      is 'CLASSIC'.
    Type: String
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    Default: 1
    Description: 'The subscription period of the instance.Default Unit: Month.Valid
      values: [1~9], 12, 24, 36. Default to 1.'
    Type: Number
  ProtocolType:
    AllowedValues:
    - mongodb
    - dynamodb
    Description: 'Protocol type. Valid value: mongodb or dynamodb.'
```

```
    Type: String
  ReplicaSet:
    Description: ''
    MaxLength: 32
    MinLength: 2
    Type: Json
  RestoreTime:
    Description: The time to restore the cloned instance to. The format is yyyy-MM-ddTHH:mm:ssZ.This
      parameter can only be specified when this operation is called to clone instances.You
      must also specify theSrcDBInstanceIdparameter and theBackupIdparameter.You can
      clone instances to any restore time in the past seven days.
    Type: String
  SecurityIPArray:
    Description: Security ips to add or remove.
    Type: String
  SrcDBInstanceId:
    Description: Create an instance of the backup set based on an instance.
    Type: String
  StorageEngine:
    AllowedValues:
    - WiredTiger
    - RocksDB
    - TerarkDB
    Default: WiredTiger
    Description: Database storage engine.Support WiredTiger, RocksDB, TerarkDB
    Type: String
  TDEStatus:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable Transparent Data Encryption (TDE). Valid
      values:
      true: enable TDE
      false: disable TDE (default)
      Note: You cannot disable TDE after it is enabled. '
    Type: Boolean
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: The vSwitch Id to create mongodb instance.
    Type: String
  VpcId:
    Description: The VPC id to create mongodb instance.
    Type: String
  ZoneId:
    Description: On which zone to create the instance. If VpcId and VSwitchId is specified,
      ZoneId is required and VSwitch should be in same zone.
    Type: String
   ResourceGroupId:
    Type: String
    Description: The ID of the resource group.
Resources:
  MongoDbShardingInstance:
    Properties:
      AccountPassword:
        Ref: AccountPassword
      AutoRenew:
        Ref: AutoRenew
      ChargeType:
        Ref: ChargeType
      ConfigServer:
        Ref: ConfigServer
      DBInstanceDescription:
        Ref: DBInstanceDescription
      EngineVersion:
        Ref: EngineVersion
      Mongos:
        Ref: Mongos
      NetworkType:
```

```
        Ref: NetworkType
      Period:
        Ref: Period
      ProtocolType:
        Ref: ProtocolType
      ReplicaSet:
        Ref: ReplicaSet
      RestoreTime:
        Ref: RestoreTime
      SecurityIPArray:
        Ref: SecurityIPArray
      SrcDBInstanceId:
        Ref: SrcDBInstanceId
      StorageEngine:
        Ref: StorageEngine
      TDEStatus:
        Ref: TDEStatus
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::MONGODB::ShardingInstance
Outputs:
  DBInstanceId:
    Description: The instance id of created mongodb instance.
    Value:
      Fn::GetAtt:
      - MongoDbShardingInstance
      - DBInstanceId
  DBInstanceStatus:
    Description: Status of mongodb instance.
    Value:
      Fn::GetAtt:
      - MongoDbShardingInstance
      - DBInstanceStatus
  OrderId:
    Description: Order Id of created instance.
    Value:
      Fn::GetAtt:
      - MongoDbShardingInstance
      - OrderId
```

To view more examples, visit ShardingInstance.json and ShardingInstance.yml.

49.NAS

49.1. ALIYUN::NAS::AccessGroup

ALIYUN::NAS::AccessGroup is used to create a permission group.

Syntax

```
{
  "Type": "ALIYUN::NAS::AccessGroup",
  "Properties": {
    "AccessGroupType": String,
    "AccessGroupName": String,
    "Description": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
AccessGroupType	String	Yes	No	The type of the permission group.	Valid values: VPC and Classic.
AccessGroupName	String	Yes	No	The name of the permission group.	The name must be 3 to 64 characters in length. It must start with a letter, digit, or hyphen (-).
Description	String	No	Yes	The description of the permission group. The description is the same as the permission group name by default.	None

Response parameters

FN::GetAtt

AccessGroupName: the name of the permission group.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AccessGroup": {
      "Type": "ALIYUN::NAS::AccessGroup",
      "Properties": {
        "AccessGroupType": {
          "Ref": "AccessGroupType"
        },
        "AccessGroupName": {
          "Ref": "AccessGroupName"
        },
        "Description": {
          "Ref": "Description"
        }
      }
    }
  },
  "Parameters": {
    "AccessGroupType": {
      "Type": "String",
      "Description": "Permission group type, including the Vpc and Classic types",
      "AllowedValues": ["Vpc", "Classic"]
    },
    "AccessGroupName": {
      "AllowedPattern": "^[a-zA-Z0-9-]{3,64}$",
      "Type": "String",
      "Description": "Permission group name"
    },
    "Description": {
      "Type": "String",
      "Description": "Permission group description. It is the same as the permission group name by default."
    }
  },
  "Outputs": {
    "AccessGroupName": {
      "Description": "Permission group name",
      "Value": {
        "Fn::GetAtt": ["AccessGroup", "AccessGroupName"]
      }
    }
  }
}
```

49.2. ALIYUN::NAS::AccessRule

ALIYUN::NAS::AccessRule is used to create a permission rule.

Syntax

```
{
  "Type": "ALIYUN::NAS::AccessRule",
  "Properties": {
    "Priority": Integer,
    "UserAccessType": String,
    "AccessGroupName": String,
    "SourceCidrIp": String,
    "RWAccessType": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Priority	Integer	No	Yes	The user access priority.	Valid values: 1 to 100. Default value: 1.

Name	Type	Required	Editable	Description	Validity
UserAccessType	String	No	Yes	The user access type.	Valid values: no_squash, root_squash, and all_squash. Default value: no_squash.
AccessGroupName	String	Yes	No	The name of the permission group.	None
SourceCidrIp	String	Yes	Yes	The authorized IP address or CIDR block.	None
RWAccessType	String	No	Yes	The read/write permission type.	Valid values: RDWR and RDONLY. Default value: RDWR.

Response parameters

FN::GetAtt

AccessRuleId: the ID of the permission rule.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AccessRule": {
      "Type": "ALIYUN::NAS::AccessRule",
      "Properties": {
        "Priority": {
          "Ref": "Priority"
        },
        "RWAccessType ":{
          "Ref": "RWAccessType"
        },
        "UserAccessType": {
          "Ref": "UserAccessType"
        },
        "SourceCidrIp": {
          "Ref": "SourceCidrIp"
        },
        "AccessGroupName": {
          "Ref": "AccessGroupName"
        }
      }
    }
  },
  "Parameters": {
    "Priority": {
      "Default": 1,
      "Type": "Number",
      "Description": "Priority level. Range: 1-100. Default value: 1",
      "MaxValue": 100,
      "MinValue": 1
    },
    "RWAccessType": {
      "Default": "RDWR",
      "Type": "String",
      "Description": "Read-write permission type: RDWR (default), RDONLY",
      "AllowedValues": ["RDWR", "RDONLY"]
    },
    "UserAccessType": {
      "Default": "no_squash",
      "Type": "String",
      "Description": "User permission type: no_squash (default), root_squash, all_squash",
      "AllowedValues": ["no_squash", "root_squash", "all_squash"]
    },
    "SourceCidrIp": {
      "Type": "String",
      "Description": "Address or address segment"
    },
    "AccessGroupName": {
      "Type": "String",
      "Description": "Permission group name"
    }
  },
  "Outputs": {
    "AccessRuleId": {
      "Description": "Rule serial number",
      "Value": {
        "Fn::GetAtt": ["AccessRule", "AccessRuleId"]
      }
    }
  }
}
```

49.3. ALIYUN::NAS::FileSystem

ALIYUN::NAS::FileSystem is used to create a file system.

Syntax

```
{
  "Type": "ALIYUN::NAS::FileSystem",
  "Properties": {
    "SnapshotId": String,
    "Description": String,
    "StorageType": String,
    "DeletionForce": Boolean,
    "EncryptType": Integer,
    "VpcId": String,
    "ZoneId": String,
    "Capacity": Integer,
    "Tags": List,
    "ProtocolType": String,
    "FileSystemType": String,
    "Bandwidth": Integer,
    "VSwitchId": String,
    "Duration": Integer,
    "ChargeType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ProtocolType	String	Yes	No	The protocol type.	Valid values: • NFS • SMB

StorageType	String	Yes	No	The storage type.	Valid values:
					• Valid values when FileSystemType is set to standard:
					  ○ Performance
					  ○ Capacity
					• Valid values when FileSystemType is set to extreme or cpfs:
					  ○ standard
					  ○ advance

DeletionForce	Boolean	No	Yes	Specifies whether to forcibly delete the file system.	Default value: false. Valid values: • true: forcibly deletes the file system. • false: does not forcibly delete the file system.
Description	String	No	Yes	The description of the file system.	The description must be 2 to 128 characters in length. It must start with a letter and cannot start with `http://` or `https://`. It can contain letters, digits, colons (:), underscores (_), and hyphens (-).
ZoneId	String	No	No	The ID of the zone.	None
Tags	List	No	Yes	The list of one or more tags of the file system.	You can bind up to 20 tags to each file system. For more information, see Tags properties.

Property	Type	Required	Editable	Description	Constraint
SnapshotId	String	No	No	The ID of the snapshot.	You can set this parameter to specify a snapshot from which to create an Extreme NAS file system. **Note** If you create a file system from a snapshot, the version of the new file system is the same as that of the source file system. If you want to create a file system of a different version from the source file system, perform the following steps: 1. Create a file system and copy the data stored in the source file of the snapshot to the file system. 2. Then, migrate your business to the file system.
EncryptType	Integer	No	No	Specifies whether to encrypt the file system. You can use keys that are hosted by Key Management Service (KMS) to encrypt data that is stored in the file system. Data is automatically decrypted when you access encrypted data.	This parameter takes effect only when the FileSystemType parameter is set to standard or extreme. Valid values: • 0: does not encrypt the file system. • 1: encrypts the file system.
Capacity	Integer	No	No	The capacity of the file system.	This parameter is required only when the FileSystemType is set to standard or extreme. Valid values: • Valid values when FileSystemType is set to extreme: 100 to 262144. • Valid values when FileSystemType is set to cpfs: 2048 to 512000. Unit: GB.
FileSystemType	String	No	No	The type of the file system.	Default value: standard. Valid values: • standard • extreme • cpfs
VpcId	String	No	No	The ID of the VPC. If you specify the VpcId and VSwitchId parameters, a default mount target is pre-configured when the file system is created.	This parameter is required when the FileSystemType parameter is set to cpfs.
Bandwidth	Integer	No	No	The maximum throughput of the file system.	This parameter is required when the FileSystemType parameter is set to cpfs. The value of this parameter is determined by the Capacity parameter. For more information, visit the CPFS buy page. Unit: Mbit/s.
VSwitchId	String	No	No	The ID of the vSwitch. If you specify the VpcId and VSwitchId parameters, a default mount target is pre-configured when the file system is created.	This parameter is required when the FileSystemType parameter is set to cpfs.

Property	Type	Required	Editable	Description	Constraint
Duration	Integer	No	No	The subscription period of the file system.	This parameter is required only when the ChargeType parameter is set to Subscription. If you do not renew a subscription file system before it expires, the file system is released. Valid values: • 1 • 2 • 3 • 6 • 12 • 36 Unit: months
ChargeType	String	No	No	The billing method of the cluster.	Valid values: • PayAsYouGo • Subscription

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key of the file system.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value of the file system.	The tag value can be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

FileSystemId: the ID of the file system.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "File system description (space characters are not allowed)"
    },
    "StorageType": {
      "Type": "String",
      "Description": "The file system type. Currently includes the Performance type and the Capacity type"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "Zone ID."
    },
```

```
    "VSwitchId": {
      "Type": "String",
      "Description": "VSwitch ID."
    },
    "Duration": {
      "Type": "Number",
      "Description": "The period of subscription in months. Required and valid when ChargeType is Subscription.\nWhen the annua
l and monthly subscription instance expires without renewal, the instance will automatically expire and be released."
    },
    "SnapshotId": {
      "Type": "String",
      "Description": "Snapshot ID."
    },
    "DeletionForce": {
      "Type": "Boolean",
      "Description": "Whether delete all mount targets on the file system and then delete file system. Default is false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "EncryptType": {
      "Type": "Number",
      "Description": "Specifies whether to encrypt data. You can use keys that are hosted by Key Management Service (KMS) to en
crypt data stored on a file system. Data is automatically decrypted when you access encrypted data. Valid values:\n0: specifies
that no encryption is applied to data on the file system.\n1: specifies that encryption is applied to data on the file system."
    },
    "VpcId": {
      "Type": "String",
      "Description": "Vpc ID."
    },
    "Capacity": {
      "Type": "Number",
      "Description": "File system capacity, the unit is GB. Required and valid when FileSystemType=extreme or cpfs."
    },
    "ProtocolType": {
      "Type": "String",
      "Description": "Type of protocol used. Currently includes the NFS type and the SMB type",
      "AllowedValues": [
        "NFS",
        "SMB"
      ]
    },
    "ChargeType": {
      "Type": "String",
      "Description": "Type of payment:\nPayAsYouGo (pay as you go)\nSubscription",
      "AllowedValues": [
        "PayAsYouGo",
        "Subscription"
      ]
    },
    "FileSystemType": {
      "Type": "String",
      "Description": "File system type. Allowed values: standard, extreme, cpfs"
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "Maximum file system throughput, unit is MB/s. Required and valid only when FileSystemType=cpfs."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to filesystem. Max support 20 tags to add during create filesystem. Each tag with two prop
erties Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "FileSystem": {
      "Type": "ALIYUN::NAS::FileSystem",
      "Properties": {
        "Description": {
```

```
          "Ref": "Description"
        },
        "StorageType": {
          "Ref": "StorageType"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "SnapshotId": {
          "Ref": "SnapshotId"
        },
        "DeletionForce": {
          "Ref": "DeletionForce"
        },
        "EncryptType": {
          "Ref": "EncryptType"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Capacity": {
          "Ref": "Capacity"
        },
        "ProtocolType": {
          "Ref": "ProtocolType"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "FileSystemType": {
          "Ref": "FileSystemType"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "FileSystemId": {
      "Description": "ID of the file system created",
      "Value": {
        "Fn::GetAtt": [
          "FileSystem",
          "FileSystemId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: File system description (space characters are not allowed)
  StorageType:
    Type: String
    Description: >-
      The file system type. Currently includes the Performance type and the
      Capacity type
  ZoneId:
    Type: String
```

```
    Description: Zone ID.
  VSwitchId:
    Type: String
    Description: VSwitch ID.
  Duration:
    Type: Number
    Description: >-
      The period of subscription in months. Required and valid when ChargeType
      is Subscription.
      When the annual and monthly subscription instance expires without renewal,
      the instance will automatically expire and be released.
  SnapshotId:
    Type: String
    Description: Snapshot ID.
  DeletionForce:
    Type: Boolean
    Description: >-
      Whether delete all mount targets on the file system and then delete file
      system. Default is false
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
  EncryptType:
    Type: Number
    Description: >-
      Specifies whether to encrypt data. You can use keys that are hosted by Key
      Management Service (KMS) to encrypt data stored on a file system. Data is
      automatically decrypted when you access encrypted data. Valid values:
      0: specifies that no encryption is applied to data on the file system.
      1: specifies that encryption is applied to data on the file system.
  VpcId:
    Type: String
    Description: Vpc ID.
  Capacity:
    Type: Number
    Description: >-
      File system capacity, the unit is GB. Required and valid when
      FileSystemType=extreme or cpfs.
  ProtocolType:
    Type: String
    Description: Type of protocol used. Currently includes the NFS type and the SMB type
    AllowedValues:
      - NFS
      - SMB
  ChargeType:
    Type: String
    Description: |-
      Type of payment:
      PayAsYouGo (pay as you go)
      Subscription
    AllowedValues:
      - PayAsYouGo
      - Subscription
  FileSystemType:
    Type: String
    Description: 'File system type. Allowed values: standard, extreme, cpfs'
  Bandwidth:
    Type: Number
    Description: >-
      Maximum file system throughput, unit is MB/s. Required and valid only when
      FileSystemType=cpfs.
  Tags:
    Type: Json
    Description: >-
      Tags to attach to filesystem. Max support 20 tags to add during create
      filesystem. Each tag with two properties Key and Value, and Key is
      required.
    MaxLength: 20
Resources:
  FileSystem:
    Type: 'ALIYUN::NAS::FileSystem'
```

```
    Properties:
      Description:
        Ref: Description
      StorageType:
        Ref: StorageType
      ZoneId:
        Ref: ZoneId
      VSwitchId:
        Ref: VSwitchId
      Duration:
        Ref: Duration
      SnapshotId:
        Ref: SnapshotId
      DeletionForce:
        Ref: DeletionForce
      EncryptType:
        Ref: EncryptType
      VpcId:
        Ref: VpcId
      Capacity:
        Ref: Capacity
      ProtocolType:
        Ref: ProtocolType
      ChargeType:
        Ref: ChargeType
      FileSystemType:
        Ref: FileSystemType
      Bandwidth:
        Ref: Bandwidth
      Tags:
        Ref: Tags
Outputs:
  FileSystemId:
    Description: ID of the file system created
    Value:
      'Fn::GetAtt':
        - FileSystem
        - FileSystemId
```

To view more examples, visit NAS.json and NAS.yml. In these examples, the following resource groups are involved: ALIYUN::NAS::FileSystem, ALIYUN::NAS::AccessGroup, ALIYUN::NAS::AccessRule, and ALIYUN::NAS::MountTarget.

49.4. ALIYUN::NAS::MountTarget

ALIYUN::NAS::MountTarget is used to create a mount point.

Syntax

```
{
  "Type": "ALIYUN::NAS::MountTarget",
  "Properties": {
    "Status": String,
    "VpcId": String,
    "FileSystemId": String,
    "VSwitchId": String,
    "NetworkType": String,
    "AccessGroupName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Status	String	No	Yes	The status of a file system.	Valid values: Active and Inactive.
VpcId	String	No	No	The ID of the VPC to which the file system belongs.	None

Name	Type	Required	Editable	Description	Validity
FileSystemId	String	Yes	No	The ID of the file system.	None
VSwitchId	String	No	No	The ID of the vSwitch in the VPC.	None
NetworkType	String	Yes	No	The network type.	Valid values: VPC and Classic.
AccessGroupName	String	Yes	Yes	The permission group name.	None

Response parameters

FN::GetAtt

MountTargetDomain: the domain name of the mount point.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MountTarget": {
      "Type": "ALIYUN::NAS::MountTarget",
      "Properties": {
        "Status": {
          "Ref": "Status"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "FileSystemId": {
          "Ref": "FileSystemId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        },
        "AccessGroupName": {
          "Ref": "AccessGroupName"
        }
      }
    }
  },
  "Parameters": {
    "Status": {
      "Type": "String",
      "Description": "Status, including Active and Inactive",
      "AllowedValues": ["Active", "Inactive"]
    },
    "VpcId": {
      "Type": "String",
      "Description": "VPC network ID"
    },
    "FileSystemId": {
      "Type": "String",
      "Description": "File system ID"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "vSwitch ID."
    },
    "NetworkType": {
      "Type": "String",
      "Description": "Network type, including Vpc and Classic networks.",
      "AllowedValues": ["Vpc", "Classic"]
    },
    "AccessGroupName": {
      "Type": "String",
      "Description": "Permission group name"
    }
  },
  "Outputs": {
    "MountTargetDomain": {
      "Description": "Mount point domain name",
      "Value": {
        "Fn::GetAtt": ["MountTarget", "MountTargetDomain"]
      }
    }
  }
}
```

50.OOS

50.1. ALIYUN::OOS::Execution

ALIYUN::OOS::Execution is used to start an execution.

Syntax

```
{
  "Type": "ALIYUN::OOS::Execution",
  "Properties": {
    "ResourceOptions": Map,
    "Parameters": Map,
    "Tags": Map,
    "TemplateName": String,
    "ParentExecutionId": String,
    "SafetyCheck": String,
    "Mode": String,
    "TemplateVersion": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceOptions	Map	No	No	The resource options used by Resource Orchestration Service (ROS).	For more information, see the ResourceOptions properties section in this topic.
Parameters	Map	No	No	The JSON-formatted strings that consist of parameters.	Example: `{"Status": "Running"}`. Default value: {}.
Tags	Map	No	No	Tags. A tag is a key-value pair. Example: {"k1":"v1","k2":"v2"}.	A maximum of 20 tags can be specified.
TemplateName	String	Yes	No	The name of the template.	The template name can be up to 200 characters in length and can contain letters, digits, hyphens (-), and underscores (_). It cannot start with ALIYUN, ACS, or ALIBABA.
ParentExecutionId	String	No	No	The ID of the parent execution.	None
SafetyCheck	String	No	No	The safety check mode.	Default value: ConfirmEveryHighRiskAction. Valid values: • Skip: specifies that you are aware of the risks. The system executes all actions in the execution without manual confirmation, regardless of the risk level. This parameter is valid only when Mode is set to Automatic. • ConfirmEveryHighRiskAction: requires you to confirm every high-risk action. You can call the NotifyExecution operation to confirm or cancel an action.
Mode	String	No	No	The execution mode.	Default value: Automatic. Valid values: • Debug • Automatic

Property	Type	Required	Editable	Description	Constraint
TemplateVersion	String	No	No	The version number.	If you do not specify this parameter, the system uses the latest version.

ResourceOptions syntax

```
"ResourceOptions": {
  "SuccessStatuses": List,
  "Timeout": Number,
  "CancelOnDelete": Boolean,
  "FailureStatuses": List
}
```

ResourceOptions properties

Property	Type	Required	Editable	Description	Constraint
SuccessStatuses	List	No	No	Specifies whether resources are created.	Default value: Success. Valid values: • Started • Queued • Running • Waiting • Success • Failed • Cancelled If the Status value is included in the FailureStatuses value, the creation is considered failed. If the Status value is included in the SuccessStatuses value, the creation is considered successful. If neither of the preceding conditions is met, the system waits till the stack creation request times out.
Timeout	Number	No	No	The timeout period.	Unit: seconds. Default value: 1800.
CancelOnDelete	Boolean	No	No	Specifies whether to cancel the execution that has not been completed when the resource is being deleted.	Default value: false. Valid values: • true • false
FailureStatuses	List	No	No	Specifies whether resources fail to be created. FailureStatuses takes precedence over SuccessStatuses.	Valid values: • Started • Queued • Running • Waiting • Success • Failed • Cancelled Default value: `["Failed", "Cancelled"]`.

Response parameters

Fn::GetAtt

- Status: the execution status.

- WindowsCurlCli: provides Windows with cURL CLI command prefixes and sends a message that indicates whether the execution is completed or failed.
- PowerShellCurlCli: provides PowerShell with cURL CLI command prefixes and sends a message that indicates whether the execution is completed or failed.
- Outputs: the output of the execution.
- ExecutionId: the unique ID of the execution.
- CurlCli: the cURL command.
- StatusMessage: the status information.
- Counters: the number of executions.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ParentExecutionId": {
      "Type": "String",
      "Description": "Parent execution ID."
    },
    "ResourceOptions": {
      "Type": "Json",
      "Description": "Resource options user by ROS."
    },
    "Parameters": {
      "Type": "Json",
      "Description": "Parameters for the execution of template."
    },
    "SafetyCheck": {
      "Type": "String",
      "Description": "Security check mode. Allowed values:\n- Skip: This option means that customers understand the risks, you
can do anything without confirmation Action, no matter what the level of risk. It takes effect only if Mode is Automatic.\n- Co
nfirmEveryHighRiskAction (default): This option would require customers to confirm each Action a high risk. NotifyExecution by
calling customer interface to confirm or cancel.",
      "AllowedValues": [
        "ConfirmEveryHighRiskAction",
        "Skip"
      ],
      "Default": "ConfirmEveryHighRiskAction"
    },
    "Mode": {
      "Type": "String",
      "Description": "Execution mode.",
      "AllowedValues": [
        "Automatic",
        "Debug"
      ],
      "Default": "Automatic"
    },
    "TemplateName": {
      "Type": "String",
      "Description": "Template name. Content is limited to letters, numbers, underlined, underline, the length of 200 character
s, and can not begin to ALIYUN, ACS, ALIBABA.",
      "MaxLength": 200
    },
    "TemplateVersion": {
      "Type": "String",
      "Description": "Version number of template. Default to the latest version."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tag value and the key mapping, the label of the key number can be up to 20.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "Execution": {
      "Type": "ALIYUN::OOS::Execution",
      "Properties": {
        "ParentExecutionId": {
          "Ref": "ParentExecutionId"
```

```
        },
        "ResourceOptions": {
          "Ref": "ResourceOptions"
        },
        "Parameters": {
          "Ref": "Parameters"
        },
        "SafetyCheck": {
          "Ref": "SafetyCheck"
        },
        "Mode": {
          "Ref": "Mode"
        },
        "TemplateName": {
          "Ref": "TemplateName"
        },
        "TemplateVersion": {
          "Ref": "TemplateVersion"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "Status": {
      "Description": "Execution status.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "Status"
        ]
      }
    },
    "CurlCli": {
      "Description": "Convenience attribute, provides curl CLI command prefix, which can be used to notify oos execution instea
d of OOS API NotifyExecution.\nYou can notify approve to oos execution by adding --data-binary '{\"data\": {\"NotifyType\": \"A
pprove\"}}' \nYou can also notify execution via ROS API SignalResource. API parameters Status and UniqueId are ignored. Use API
parameter Data to pass data.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "CurlCli"
        ]
      }
    },
    "WindowsCurlCli": {
      "Description": "Convenience attribute, provides curl CLI command prefix for Windows, which can be used to notify oos exec
ution instead of OOS API NotifyExecution.\nYou can notify approve to oos execution by adding --data-binary \"{\\\"data\\\": {\\
\"NotifyType\\\": \\\"Approve\\\"}}\" \nYou can also notify execution via ROS API SignalResource. API parameters Status and Uni
queId are ignored. Use API parameter Data to pass data.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "WindowsCurlCli"
        ]
      }
    },
    "Outputs": {
      "Description": "Execution output.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "Outputs"
        ]
      }
    },
    "Counters": {
      "Description": "Task statistics: FailedTasks, SuccessTasks, TotalTasks.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "Counters"
        ]
```

```
      }
    },
    "PowerShellCurlCli": {
      "Description": "Convenience attribute, provides curl CLI command prefix for PowerShell, which can be used to notify oos e
xecution instead of OOS API NotifyExecution.\nYou can notify approve to oos execution by adding -Body '{\"data\": {\"NotifyType
\": \"Approve\"}}' \nYou can also notify execution via ROS API SignalResource. API parameters Status and UniqueId are ignored.
Use API parameter Data to pass data.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "PowerShellCurlCli"
        ]
      }
    },
    "ExecutionId": {
      "Description": "Execution ID.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "ExecutionId"
        ]
      }
    },
    "StatusMessage": {
      "Description": "Execution status information.",
      "Value": {
        "Fn::GetAtt": [
          "Execution",
          "StatusMessage"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Mode:
    AllowedValues:
    - Automatic
    - Debug
    Default: Automatic
    Description: Execution mode.
    Type: String
  Parameters:
    Description: Parameters for the execution of template.
    Type: Json
  ParentExecutionId:
    Description: Parent execution ID.
    Type: String
  ResourceOptions:
    Description: Resource options user by ROS.
    Type: Json
  SafetyCheck:
    AllowedValues:
    - ConfirmEveryHighRiskAction
    - Skip
    Default: ConfirmEveryHighRiskAction
    Description: 'Security check mode. Allowed values:
      - Skip: This option means that customers understand the risks, you can do anything
      without confirmation Action, no matter what the level of risk. It takes effect
      only if Mode is Automatic.
      - ConfirmEveryHighRiskAction (default): This option would require customers
      to confirm each Action a high risk. NotifyExecution by calling customer interface
      to confirm or cancel.'
    Type: String
  Tags:
    Description: Tag value and the key mapping, the label of the key number can be
      up to 20.
    MaxLength: 20
    Type: Json
```

```
  TemplateName:
    Description: Template name. Content is limited to letters, numbers, underlined,
      underline, the length of 200 characters, and can not begin to ALIYUN, ACS, ALIBABA.
    MaxLength: 200
    Type: String
  TemplateVersion:
    Description: Version number of template. Default to the latest version.
    Type: String
Resources:
  Execution:
    Properties:
      Mode:
        Ref: Mode
      Parameters:
        Ref: Parameters
      ParentExecutionId:
        Ref: ParentExecutionId
      ResourceOptions:
        Ref: ResourceOptions
      SafetyCheck:
        Ref: SafetyCheck
      Tags:
        Ref: Tags
      TemplateName:
        Ref: TemplateName
      TemplateVersion:
        Ref: TemplateVersion
    Type: ALIYUN::OOS::Execution
Outputs:
  Counters:
    Description: 'Task statistics: FailedTasks, SuccessTasks, TotalTasks.'
    Value:
      Fn::GetAtt:
      - Execution
      - Counters
  CurlCli:
    Description: "Convenience attribute, provides curl CLI command prefix, which can\
      \ be used to notify oos execution instead of OOS API NotifyExecution.\nYou can\
      \ notify approve to oos execution by adding --data-binary '{\"data\": {\"NotifyType\"\
      : \"Approve\"}}' \n\
      You can also notify execution via ROS API SignalResource. API parameters Status\
      \ and UniqueId are ignored. Use API parameter Data to pass data."
    Value:
      Fn::GetAtt:
      - Execution
      - CurlCli
  ExecutionId:
    Description: Execution ID.
    Value:
      Fn::GetAtt:
      - Execution
      - ExecutionId
  Outputs:
    Description: Execution output.
    Value:
      Fn::GetAtt:
      - Execution
      - Outputs
  PowerShellCurlCli:
    Description: "Convenience attribute, provides curl CLI command prefix for PowerShell,\
      \ which can be used to notify oos execution instead of OOS API NotifyExecution.\n\
      You can notify approve to oos execution by adding -Body '{\"data\": {\"NotifyType\"\
      : \"Approve\"}}' \You\
      \ can also notify execution via ROS API SignalResource. API parameters Status\
      \ and UniqueId are ignored. Use API parameter Data to pass data."
    Value:
      Fn::GetAtt:
      - Execution
      - PowerShellCurlCli
  Status:
    Description: Execution status.
    Value:
      Fn::GetAtt:
      - Execution
```

```
      - Status
  StatusMessage:
    Description: Execution status information.
    Value:
      Fn::GetAtt:
      - Execution
      - StatusMessage
  WindowsCurlCli:
    Description: "Convenience attribute, provides curl CLI command prefix for Windows,\
      \ which can be used to notify oos execution instead of OOS API NotifyExecution.\n\
      You can notify approve to oos execution by adding --data-binary \"{\\\"data\\\
      \": {\\\"NotifyType\\\": \\\"Approve\\\"}}\" \nYou can also\
      \ notify execution via ROS API SignalResource. API parameters Status and UniqueId\
      \ are ignored. Use API parameter Data to pass data."
    Value:
      Fn::GetAtt:
      - Execution
      - WindowsCurlCli
```

For more examples, visit OOS.json and OOS.yml. In the examples, the ALIYUN::OOS::Template and ALIYUN::OOS::Execution resource types are involved.

50.2. ALIYUN::OOS::Template

ALIYUN::OOS::Template is used to create a template.

Syntax

```
{
  "Type": "ALIYUN::OOS::Template",
  "Properties": {
    "Content": String,
    "TemplateName": String,
    "Tags": Map
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Content	String	Yes	Yes	The content of the template.	The content must be in JSON or YAML format, and its maximum size is 64 KB.
TemplateName	String	Yes	No	The name of the template.	The template name can be up to 200 characters in length and can contain letters, digits, hyphens (-), and underscores (_). It cannot start with ALIYUN, ACS, ALIBABA, or ALICLOUD.
Tags	Map	No	Yes	Tags. A tag is a key-value pair. Example: {"k1":"v1","k2":"v2"}.	A maximum of 20 key-value pairs are supported.

Response parameters

Fn::GetAtt

- TemplateId: the ID of the template.
- TemplateName: the name of the template.
- ExecutionPolicy: the execution policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Template": {
      "Type": "ALIYUN::OOS::Template",
      "Properties": {
        "Content": {
          "Ref": "Content"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "TemplateName": {
          "Ref": "TemplateName"
        }
      }
    }
  },
  "Parameters": {
    "Content": {
      "Type": "String",
      "Description": "The content of the template. The template must be in the JSON or YAML format. Maximum size: 64 KB.",
      "MaxLength": 65536
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tag value and the key mapping, the label of the key number can be up to 20.",
      "MaxLength": 20
    },
    "TemplateName": {
      "Type": "String",
      "Description": "The name of the template. The template name can be up to 200 characters in length. The name can contain l
etters, digits, hyphens (-), and underscores (_). It cannot start with ALIYUN, ACS, ALIBABA, or ALICLOUD.",
      "MaxLength": 200
    }
  },
  "Outputs": {
    "ExecutionPolicy": {
      "Description": "Execution Policy",
      "Value": {
        "Fn::GetAtt": [
          "Template",
          "ExecutionPolicy"
        ]
      }
    },
    "TemplateName": {
      "Description": "Template Name",
      "Value": {
        "Fn::GetAtt": [
          "Template",
          "TemplateName"
        ]
      }
    },
    "TemplateId": {
      "Description": "Template ID",
      "Value": {
        "Fn::GetAtt": [
          "Template",
          "TemplateId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Template:
    Type: ALIYUN::OOS::Template
    Properties:
      Content:
        Ref: Content
      Tags:
        Ref: Tags
      TemplateName:
        Ref: TemplateName
Parameters:
  Content:
    Type: String
    Description: 'The content of the template. The template must be in the JSON or
      YAML format. Maximum size: 64 KB.'
    MaxLength: 65536
  Tags:
    Type: Json
    Description: Tag value and the key mapping, the label of the key number can be
      up to 20.
    MaxLength: 20
  TemplateName:
    Type: String
    Description: The name of the template. The template name can be up to 200 characters
      in length. The name can contain letters, digits, hyphens (-), and underscores
      (_). It cannot start with ALIYUN, ACS, ALIBABA, or ALICLOUD.
    MaxLength: 200
Outputs:
  ExecutionPolicy:
    Description: Execution Policy
    Value:
      Fn::GetAtt:
      - Template
      - ExecutionPolicy
  TemplateName:
    Description: Template Name
    Value:
      Fn::GetAtt:
      - Template
      - TemplateName
  TemplateId:
    Description: Template ID
    Value:
      Fn::GetAtt:
      - Template
      - TemplateId
```

50.3. ALIYUN::OOS::Parameter

ALIYUN::OOS::Parameter is used to create a common parameter.

Syntax

```
{
  "Type": "ALIYUN::OOS::Parameter",
  "Properties": {
    "Type": String,
    "Constraints": String,
    "Description": String,
    "Value": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The data type of the parameter.	Valid values: • String • StringList
Constraints	String	No	No	The constraints of the parameter.	Valid values: • AllowedValues: the valid values of the parameter. This value can be a string in the array format. • AllowedPattern: the regular expression of the parameter. • MinLength: the minimum length of the parameter. • MaxLength: the maximum length of the parameter.
Description	String	No	Yes	The description of the parameter.	The description can be up to 200 characters in length.
Value	String	Yes	Yes	The parameter value.	The parameter value can be up to 4,096 characters in length.
Name	String	Yes	No	The name of the parameter.	The name can be up to 200 characters in length. It cannot start with `ALIYUN`, `ACS`, `ALIBABA`, `ALICLOUD`, or `OOS`. It can contain letters, digits, hyphens (-), and underscores (_).

Response parameters

Fn::GetAtt

- Name: the name of the parameter.
- Value: the value of the parameter.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Type": {
      "Type": "String",
      "Description": "The data type of the common parameter. \nValid values: String and StringList.",
      "AllowedValues": [
        "String",
        "StringList"
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the parameter. \nThe description must be 1 to 200 characters in length."
    },
    "Constraints": {
      "Type": "String",
      "Description": "The constraints of the parameter. \nBy default, this parameter is null. Valid values:\nAllowedValues: The
value that is allowed for the parameter. It must be an array string.\nAllowedPattern: The pattern that is allowed for the param
```

```
eter. It must be a regular expression.\nMinLength: The minimum length of the parameter.\nMaxLength: The maximum length of the p
arameter."
    },
    "Value": {
      "Type": "String",
      "Description": "The value of the parameter. \nThe value must be 1 to 4096 characters in length."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the parameter. \nThe name must be 1 to 200 characters in length,and can contain letters, digi
ts, hyphens (-), and underscores (_). \nIt cannot start with ALIYUN, ACS, ALIBABA, ALICLOUD, or OOS."
    }
  },
  "Resources": {
    "Parameter": {
      "Type": "ALIYUN::OOS::Parameter",
      "Properties": {
        "Type": {
          "Ref": "Type"
        },
        "Description": {
          "Ref": "Description"
        },
        "Constraints": {
          "Ref": "Constraints"
        },
        "Value": {
          "Ref": "Value"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Value": {
      "Description": "The Value of the parameter.",
      "Value": {
        "Fn::GetAtt": [
          "Parameter",
          "Value"
        ]
      }
    },
    "Name": {
      "Description": "The Name of the parameter.",
      "Value": {
        "Fn::GetAtt": [
          "Parameter",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Type:
    Type: String
    Description: |-
      The data type of the common parameter.
      Valid values: String and StringList.
    AllowedValues:
      - String
      - StringList
  Description:
    Type: String
    Description: |-
      The description of the parameter.
      The description must be 1 to 200 characters in length.
  Constraints:
    Type: String
    Description: >-
      The constraints of the parameter.
      By default, this parameter is null. Valid values:
      AllowedValues: The value that is allowed for the parameter. It must be an
      array string.
      AllowedPattern: The pattern that is allowed for the parameter. It must be
      a regular expression.
      MinLength: The minimum length of the parameter.
      MaxLength: The maximum length of the parameter.
  Value:
    Type: String
    Description: |-
      The value of the parameter.
      The value must be 1 to 4096 characters in length.
  Name:
    Type: String
    Description: >-
      The name of the parameter.
      The name must be 1 to 200 characters in length,and can contain letters,
      digits, hyphens (-), and underscores (_).
      It cannot start with ALIYUN, ACS, ALIBABA, ALICLOUD, or OOS.
Resources:
  Parameter:
    Type: 'ALIYUN::OOS::Parameter'
    Properties:
      Type:
        Ref: Type
      Description:
        Ref: Description
      Constraints:
        Ref: Constraints
      Value:
        Ref: Value
      Name:
        Ref: Name
Outputs:
  Value:
    Description: The Value of the parameter.
    Value:
      'Fn::GetAtt':
        - Parameter
        - Value
  Name:
    Description: The Name of the parameter.
    Value:
      'Fn::GetAtt':
        - Parameter
        - Name
```

51.OSS

51.1. ALIYUN::OSS::Bucket

ALIYUN::OSS::Bucket is used to create an Object Storage Service (OSS) bucket.

Syntax

```
{
  "Type": "ALIYUN::OSS::Bucket",
  "Properties": {
    "AccessControl": String,
    "RefererConfiguration": Map,
    "ServerSideEncryptionConfiguration": Map,
    "CORSConfiguration": Map,
    "Tags": Map,
    "LoggingConfiguration": Map,
    "LifecycleConfiguration": Map,
    "StorageClass": String,
    "DeletionForce": Boolean,
    "WebsiteConfiguration": Map,
    "Policy": Map,
    "BucketName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
BucketName	String	Yes	No	The name of the bucket.	The name must be 3 to 63 characters in length and can contain lowercase letters, digits, and hyphens (-). The name must start and end with a lowercase letter or a digit.
AccessControl	String	No	No	The access control configurations of the bucket.	Valid values: • private (default): The bucket is private. • public-read: The bucket supports public reads. • public-read-write: The bucket supports public reads and writes.
CORSConfiguration	Map	No	No	The configurations of cross-origin resource sharing (CORS) for objects in the bucket.	For more information, see CORSConfiguration properties.
LifecycleConfiguration	Map	No	Yes	The lifecycle configurations for objects in the bucket.	For more information, see LifecycleConfiguration properties.
LoggingConfiguration	Map	No	No	The log storage configurations.	For more information, see LoggingConfiguration properties.
RefererConfiguration	Map	No	Yes	The hotlink protection configurations.	For more information, see RefererConfiguration properties.
DeletionForce	Boolean	No	No	Specifies whether to forcibly delete objects from the OSS bucket.	Valid values: • true: forcibly deletes objects from the OSS bucket. • false (default): does not forcibly delete objects from the OSS bucket.

Property	Type	Required	Editable	Description	Constraint
WebsiteConfiguration	Map	No	No	The configurations of the hosted static website.	For more information, see WebsiteConfiguration properties.
ServerSideEncryptionConfiguration	Map	No	Yes	The server-side encryption rules.	For more information, see ServerSideEncryptionConfiguration properties.
Tags	Map	No	Yes	The tags of the bucket. Tags exist as key-value pairs.	A maximum of 20 tags can be specified. A tag key must be 1 to 64 bytes in length and cannot start with `http://`, `https://`, or `Aliyun`. A tag value must be 0 to 128 bytes in length and must be encoded in UTF-8.
StorageClass	String	No	No	The type of the bucket.	Default value: Standard. Valid values: • Standard: Standard • IA: Infrequent Access (IA) • Archive: Archive
Policy	Map	No	No	The bucket policy configurations.	None

CORSConfiguration syntax

```
"CORSConfiguration": {
  "CORSRule": List
}
```

CORSConfiguration properties

Property	Type	Required	Editable	Description	Constraint
CORSRule	List	No	No	The list of rules that define CORS of objects in the bucket.	For more information, see CORSRule properties.

CORSRule syntax

```
"CORSRule": [
  {
    "MaxAgeSeconds": Number,
    "AllowedMethod": List,
    "ExposeHeader": List,
    "AllowedOrigin": List,
    "AllowedHeader": List
  }
]
```

CORSRule properties

Property	Type	Required	Editable	Description	Constraint
AllowedHeader	List	No	No	The allowed headers in cross-domain requests.	Valid values: • * • Cache-Control • Content-Language • Content-Type • Expires • Last-Modified • Pragma

Property	Type	Required	Editable	Description	Constraint
AllowedMethod	List	No	No	The allowed methods for cross-domain requests.	Valid values: • * • GET • PUT • POST • DELETE • HEAD
AllowedOrigin	List	No	No	The origins from which you want to allow cross-domain requests.	None
ExposeHeader	List	No	No	The response headers that you can access from your applications.	Asterisks (*) cannot be used as wildcard characters.
MaxAgeSeconds	Number	No	No	The period of time that the browser can cache the response of a preflight (OPTIONS) request to a specific resource.	None

LifecycleConfiguration syntax

```
"LifecycleConfiguration": {
  "Rule": List
}
```

LifecycleConfiguration properties

Property	Type	Required	Editable	Description	Constraint
Rule	List	Yes	No	The list of rules that define how the bucket manages objects during their lifecycles.	For more information, see Rule properties.

Rule syntax

```
"Rule": [
  {
    "Status": String,
    "AbortMultipartUpload": Map,
    "Expiration": Map,
    "Prefix": String,
    "ID": String
  }
]
```

Rule properties

Property	Type	Required	Editable	Description	Constraint
ID	String	No	No	The unique ID of the rule.	The ID can be up to 255 bytes in length. When this parameter is empty or not specified, OSS generates a unique ID for the rule.

Property	Type	Required	Editable	Description	Constraint
Prefix	String	Yes	No	The prefix to which the rule applies.	The rule takes effect only on objects that have a matching prefix.
Status	String	No	Yes	Specifies whether to enable the rule.	Valid values: • Enabled: enables the rule. • Disabled: disables the rule.
Expiration	Map	No	No	The expiration attributes of the rule for the specified object.	For more information, see Expiration properties.
AbortMultipartUpload	Map	No	No	The expiration attributes of the multipart upload tasks that are not complete.	For more information, see AbortMultipartUpload properties.

Expiration syntax

```
"Expiration":{
  "Days": Number,
  "CreatedBeforeDate": String,
  "Date": String
}
```

Expiration properties

Property	Type	Required	Editable	Description	Constraint
Days	Number	No	No	The number of days from when the object was last modified to when the rule takes effect.	When the number of days since the object was last modified exceeds the specified number of days, the object is deleted. If you set the Days parameter to 30, objects that were last modified on January 1, 2016 are deleted by the backend application on January 31, 2016.
CreatedBeforeDate	String	No	No	The date based on which the lifecycle rules are implemented. OSS performs the specified operation on data that was last modified before this date.	Specify the time in the ISO 8601 standard. The time must be at 00:00:00 UTC. Example: 2002-10-11T00:00:00.000Z.

AbortMultipartUpload syntax

```
"AbortMultipartUpload": {
  "CreatedBeforeDate": String,
  "Days": Number
}
```

AbortMultipartUpload properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Days	Number	No	No	The number of days from when the object was last modified to when the rule takes effect.	When the number of days since the object was last modified exceeds the specified number of days, the object is deleted. If you set the Days parameter to 30, objects that were last modified on January 1, 2016 are deleted by the backend application on January 31, 2016.
CreatedBeforeDate	String	No	No	The time before which the rule takes effect.	Specify the time in the ISO 8601 standard. The time must be at 00:00:00 UTC. Example: 2002-10-11T00:00:00.000Z.

LoggingConfiguration syntax

```
"LoggingConfiguration": {
  "TargetBucket": String,
  "TargetPrefix": String
}
```

LoggingConfiguration properties

Property	Type	Required	Editable	Description	Constraint
TargetBucket	String	No	No	The bucket that is used to store access logs.	None
TargetPrefix	String	No	No	The prefix of the names of access logs that are saved.	None

WebsiteConfiguration syntax

```
"WebsiteConfiguration":{
  "IndexDocument": String,
  "ErrorDocument": String
}
```

WebsiteConfiguration properties

Property	Type	Required	Editable	Description	Constraint
IndexDocument	String	No	No	The homepage for the hosted static website.	None
ErrorDocument	String	No	No	The error page of the hosted static website.	None

RefererConfiguration syntax

```
"RefererConfiguration":{
  "AllowEmptyReferer": String,
  "RefererList": List
}
```

RefererConfiguration properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
AllowEmptyReferer	Boolean	No	No	Specifies whether to allow access requests that have an empty Referer field.	Valid values: • true (default): allows requests that have an empty Referer field. • false: denies requests that have an empty Referer field.
RefererList	List	No	No	The Referer whitelist. OSS allows requests whose Referer field values are in the Referer whitelist.	None

ServerSideEncryptionConfiguration syntax

```
"ServerSideEncryptionConfiguration":{
  "KMSMasterKeyID": String,
  "SSEAlgorithm": String
}
```

ServerSideEncryptionConfiguration properties

Property	Type	Required	Editable	Description	Constraint
KMSMasterKeyID	String	No	No	The ID of the customer master key.	The key ID is required only when the SSEAlgorithm parameter is set to KMS and a specified key is used for encryption.
SSEAlgorithm	String	Yes	No	The default server-side encryption method.	Valid values: • KMS • AES256

Response parameters

Fn::GetAtt

- Name: the bucket name, which is globally unique.
- DomainName: the public domain name of the specified bucket.
- InternalDomainName: the internal domain name of the specified bucket.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Policy": {
      "Type": "Json",
      "Description": "Bucket policy"
    },
    "CORSConfiguration": {
      "Type": "Json",
      "Description": "Rules that define cross-origin resource sharing of objects in this bucket."
    },
    "DeletionForce": {
      "Type": "Boolean",
      "Description": "Whether force delete the relative objects in the bucket. Default value is false.",
      "AllowedValues": [
        "true",
        "false"
      ],
      "Default": false
    },
    "BucketName": {
      "Type": "String",
      "Description": "bucket name."
```

```
    },
    "StorageClass": {
      "Type": "String",
      "Description": "Specifies the storage class of the bucket. Default is \"Standard\".",
      "AllowedValues": [
        "Standard",
        "IA",
        "Archive"
      ]
    },
    "LoggingConfiguration": {
      "Type": "Json",
      "Description": "Settings that defines where logs are stored."
    },
    "WebsiteConfiguration": {
      "Type": "Json",
      "Description": "The properties of website config."
    },
    "RefererConfiguration": {
      "Type": "Json"
    },
    "LifecycleConfiguration": {
      "Type": "Json",
      "Description": "Rules that define how oss bucket manages objects during their lifetime."
    },
    "ServerSideEncryptionConfiguration": {
      "Type": "Json",
      "Description": "Specifies the bucket used to store the server-side encryption rule."
    },
    "AccessControl": {
      "Type": "String",
      "Description": "The access control list.",
      "AllowedValues": [
        "private",
        "public-read",
        "public-read-write"
      ],
      "Default": "private"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Bucket tags in k-v pairs format."
    }
  },
  "Resources": {
    "Bucket": {
      "Type": "ALIYUN::OSS::Bucket",
      "Properties": {
        "Policy": {
          "Ref": "Policy"
        },
        "CORSConfiguration": {
          "Ref": "CORSConfiguration"
        },
        "DeletionForce": {
          "Ref": "DeletionForce"
        },
        "BucketName": {
          "Ref": "BucketName"
        },
        "StorageClass": {
          "Ref": "StorageClass"
        },
        "LoggingConfiguration": {
          "Ref": "LoggingConfiguration"
        },
        "WebsiteConfiguration": {
          "Ref": "WebsiteConfiguration"
        },
        "RefererConfiguration": {
          "Ref": "RefererConfiguration"
        },
        "LifecycleConfiguration": {
          "Ref": "LifecycleConfiguration"
```

```
        },
        "ServerSideEncryptionConfiguration": {
          "Ref": "ServerSideEncryptionConfiguration"
        },
        "AccessControl": {
          "Ref": "AccessControl"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "DomainName": {
      "Description": "The public DNS name of the specified bucket.",
      "Value": {
        "Fn::GetAtt": [
          "Bucket",
          "DomainName"
        ]
      }
    },
    "InternalDomainName": {
      "Description": "The internal DNS name of the specified bucket.",
      "Value": {
        "Fn::GetAtt": [
          "Bucket",
          "InternalDomainName"
        ]
      }
    },
    "Name": {
      "Description": "The name of Bucket",
      "Value": {
        "Fn::GetAtt": [
          "Bucket",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Policy:
    Type: Json
    Description: Bucket policy
  CORSConfiguration:
    Type: Json
    Description: Rules that define cross-origin resource sharing of objects in this bucket.
  DeletionForce:
    Type: Boolean
    Description: >-
      Whether force delete the relative objects in the bucket. Default value is
      false.
    AllowedValues:
      - 'true'
      - 'false'
    Default: false
  BucketName:
    Type: String
    Description: bucket name.
  StorageClass:
    Type: String
    Description: Specifies the storage class of the bucket. Default is "Standard".
    AllowedValues:
      - Standard
      - IA
      - Archive
  LoggingConfiguration:
```

```
    LoggingConfiguration:
      Type: Json
      Description: Settings that defines where logs are stored.
    WebsiteConfiguration:
      Type: Json
      Description: The properties of website config.
    RefererConfiguration:
      Type: Json
    LifecycleConfiguration:
      Type: Json
      Description: Rules that define how oss bucket manages objects during their lifetime.
    ServerSideEncryptionConfiguration:
      Type: Json
      Description: Specifies the bucket used to store the server-side encryption rule.
    AccessControl:
      Type: String
      Description: The access control list.
      AllowedValues:
        - private
        - public-read
        - public-read-write
      Default: private
    Tags:
      Type: Json
      Description: Bucket tags in k-v pairs format.
  Resources:
    Bucket:
      Type: 'ALIYUN::OSS::Bucket'
      Properties:
        Policy:
          Ref: Policy
        CORSConfiguration:
          Ref: CORSConfiguration
        DeletionForce:
          Ref: DeletionForce
        BucketName:
          Ref: BucketName
        StorageClass:
          Ref: StorageClass
        LoggingConfiguration:
          Ref: LoggingConfiguration
        WebsiteConfiguration:
          Ref: WebsiteConfiguration
        RefererConfiguration:
          Ref: RefererConfiguration
        LifecycleConfiguration:
          Ref: LifecycleConfiguration
        ServerSideEncryptionConfiguration:
          Ref: ServerSideEncryptionConfiguration
        AccessControl:
          Ref: AccessControl
        Tags:
          Ref: Tags
  Outputs:
    DomainName:
      Description: The public DNS name of the specified bucket.
      Value:
        'Fn::GetAtt':
          - Bucket
          - DomainName
    InternalDomainName:
      Description: The internal DNS name of the specified bucket.
      Value:
        'Fn::GetAtt':
          - Bucket
          - InternalDomainName
    Name:
      Description: The name of Bucket
      Value:
        'Fn::GetAtt':
          - Bucket
          - Name
```

To view more examples, visit Bucket.json and Bucket.yml.

52.OTS

52.1. ALIYUN::OTS::Instance

ALIYUN::OTS::Instance is used to create a Tablestore instance.

Syntax

```
{
  "Type": "ALIYUN::OTS::Instance",
  "Properties": {
    "Network": String,
    "ClusterType": String,
    "InstanceName": String,
    "Description": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ClusterType	String	No	No	The specifications of the instance.	Default value: SSD. Valid values: • SSD • HYBRID
InstanceName	String	Yes	No	The name of the instance.	The name must be 3 to 16 characters in length. It must start with a letter but cannot end with a hyphen (-). It can contain letters, digits, and hyphens (-).
Network	String	No	Yes	The network type of the instance.	Default value: NORMAL. Valid values: • NORMAL • VPC • VPC_CONSOLE
Description	String	No	No	The description of the instance.	The description can be up to 256 characters in length.
Tags	List	No	Yes	The tags of the instance.	A maximum of five tags can be specified. For more information, see Properties.

Tags syntax

```
"Tags":[
  {
    "Value":String,
    "Key":String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length. It cannot start with `acs:` or `aliyun` . It cannot contain `http://` or `https://` .
Value	String	No	No	The tag value.	The tag key must be 0 to 128 characters in length and cannot start with `acs:` or `aliyun` . It cannot contain `http://` or `https://` .

Response parameters

Fn::GetAtt

- PrivateEndpoint: the private endpoint of the instance.
- PublicEndpoint: the public endpoint of the instance.
- VpcEndpoint: the endpoint of the VPC.
- InstanceName: the name of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceName": {
      "Type": "String",
      "Description": "The name of the instance.",
      "AllowedPattern": "[a-zA-Z][-a-zA-Z0-9]{1,14}[a-zA-Z0-9]"
    },
    "Description": {
      "Type": "String",
      "Description": "Instance description.",
      "MaxLength": 256
    },
    "Network": {
      "Type": "String",
      "Description": "Instance network type, default is NORMAL.",
      "AllowedValues": [
        "NORMAL",
        "VPC",
        "VPC_CONSOLE"
      ],
      "Default": "NORMAL"
    },
    "ClusterType": {
      "Type": "String",
      "Description": "Cluster type, the default is SSD.",
      "AllowedValues": [
        "SSD",
        "HYBRID"
      ],
      "Default": "SSD"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 5 tags to add during create instance. Each tag with two propertie
s Key and Value, and Key is required.",
      "MaxLength": 5
    }
  },
  "Resources": {
    "Instance": {
      "Type": "ALIYUN::OTS::Instance",
```

```
      "Properties": {
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "Description": {
          "Ref": "Description"
        },
        "Network": {
          "Ref": "Network"
        },
        "ClusterType": {
          "Ref": "ClusterType"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "InstanceName": {
      "Description": "Instance name",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "InstanceName"
        ]
      }
    },
    "VpcEndpoint": {
      "Description": "Vpc endpoint",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "VpcEndpoint"
        ]
      }
    },
    "PublicEndpoint": {
      "Description": "Public endpoint",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "PublicEndpoint"
        ]
      }
    },
    "PrivateEndpoint": {
      "Description": "Private endpoint",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "PrivateEndpoint"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InstanceName:
    Type: String
    Description: The name of the instance.
    AllowedPattern: '[a-zA-Z][-a-zA-Z0-9]{1,14}[a-zA-Z0-9]'
  Description:
    Type: String
    Description: Instance description.
    MaxLength: 256
  Network:
    Type: String
    Description: 'Instance network type, default is NORMAL.'
    AllowedValues:
      - NORMAL
      - VPC
      - VPC_CONSOLE
    Default: NORMAL
  ClusterType:
    Type: String
    Description: 'Cluster type, the default is SSD.'
    AllowedValues:
      - SSD
      - HYBRID
    Default: SSD
  Tags:
    Type: Json
    Description: >-
      Tags to attach to instance. Max support 5 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 5
Resources:
  Instance:
    Type: 'ALIYUN::OTS::Instance'
    Properties:
      InstanceName:
        Ref: InstanceName
      Description:
        Ref: Description
      Network:
        Ref: Network
      ClusterType:
        Ref: ClusterType
      Tags:
        Ref: Tags
Outputs:
  InstanceName:
    Description: Instance name
    Value:
      'Fn::GetAtt':
        - Instance
        - InstanceName
  VpcEndpoint:
    Description: Vpc endpoint
    Value:
      'Fn::GetAtt':
        - Instance
        - VpcEndpoint
  PublicEndpoint:
    Description: Public endpoint
    Value:
      'Fn::GetAtt':
        - Instance
        - PublicEndpoint
  PrivateEndpoint:
    Description: Private endpoint
    Value:
      'Fn::GetAtt':
        - Instance
        - PrivateEndpoint
```

52.2. ALIYUN::OTS::SearchIndex

ALIYUN::OTS::SearchIndex is used to create a search index for a table. You can create multiple search indexes for a table.

Syntax

```
{
  "Type": "ALIYUN::OTS::SearchIndex",
  "Properties": {
    "IndexName": String,
    "InstanceName": String,
    "TableName": String,
    "FieldSchemas": List,
    "IndexSort": Map,
    "IndexSetting": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
IndexName	String	Yes	No	The name of the search index.	None
InstanceName	String	Yes	No	The name of the instance to which the table belongs.	None
TableName	String	Yes	No	The name of the table.	None
FieldSchemas	List	Yes	No	The list of field schemas.	None
IndexSort	Map	No	No	The presorting settings of the index. By default, data is sorted by primary key.	Search indexes that contain nested fields do not support IndexSort. For more information, see IndexSort properties.
IndexSetting	Map	No	No	The index settings.	For more information, see IndexSetting properties.

IndexSort syntax

```
"IndexSort": {
  "Sorters": List
}
```

IndexSort properties

Property	Type	Required	Editable	Description	Constraint
Sorters	List	Yes	No	The presorting method for the index.	PrimaryKeySort and FieldSort are supported. For more information, see Sorting and pagination and Sorters properties.

Sorters syntax

```
"Sorters": [
  {
    "FieldSort": Map,
    "PrimaryKeySort": Map,
    "ScoreSort": Map,
    "GeoDistanceSort": Map
  }
]
```

Sorters properties

Property	Type	Required	Editable	Description	Constraint
FieldSort	Map	No	No	Specifies to sort data by field value.	For more information, see FieldSort properties.
PrimaryKeySort	Map	No	No	Specifies to sort data by primary key.	For more information, see PrimaryKeySort properties.
ScoreSort	Map	No	No	Specifies to sort the query result based on the BM25-based keyword relevance score. ScoreSort is applicable to scenarios such as full-text search.	You must set ScoreSort to sort the matched data by keyword relevance score. Otherwise, the matched data is sorted based on the IndexSort field value. For more information, see ScoreSort properties.
GeoDistanceSort	Map	No	No	Specifies to sort data by geographic distance.	For more information, see GeoDistanceSort properties.

FieldSort syntax

```
"FieldSort": {
  "SortMode": String,
  "SortOrder": String,
  "FieldName": String
}
```

FieldSort properties

Property	Type	Required	Editable	Description	Constraint
SortMode	String	No	No	The sorting method used when the field has multiple values.	None
SortOrder	String	No	No	The sorting order.	Default value: ASC. Valid values: • ASC: the ascending order • DESC: the descending order
FieldName	String	Yes	No	The name of the field to be sorted.	None

PrimaryKeySort syntax

```
"PrimaryKeySort": {
  "SortOrder": String
}
```

PrimaryKeySort properties

Property	Type	Required	Editable	Description	Constraint
SortOrder	String	No	No	The sorting order.	Default value: ASC. Valid values: • ASC: the ascending order • DESC: the descending order

ScoreSort syntax

```
"ScoreSort": {
  "SortOrder": String
}
```

ScoreSort properties

Property	Type	Required	Editable	Description	Constraint
SortOrder	String	No	No	The sorting order.	Default value: ASC. Valid values: • ASC: the ascending order • DESC: the descending order

GeoDistanceSort syntax

```
"GeoDistanceSort": {
  "Points": List,
  "SortMode": String,
  "SortOrder": String,
  "FieldName": String
}
```

GeoDistanceSort properties

Property	Type	Required	Editable	Description	Constraint
Points	List	Yes	No	The coordinates of the points that compose the polygon. You can specify a polygon by using multiple coordinates.	The format is `latitude,longitude`. Valid values of latitude: [-90,+90]. Valid values of longitude: [-180,+180]. Example: `35.8,-45.91`.
SortMode	String	No	No	The sorting method used when the field has multiple values.	None
SortOrder	String	No	No	The sorting order.	Default value: ASC. Valid values: • ASC: the ascending order • DESC: the descending order
FieldName	String	Yes	No	The name of the field to be sorted.	None

IndexSetting syntax

```
"IndexSetting": {
  "RoutingFields": List
}
```

IndexSetting properties

Property	Type	Required	Editable	Description	Constraint
RoutingFields	List	No	No	The custom routing fields.	You can specify some primary key columns as routing fields. Tablestore distributes data that is written to a search index to different partitions based on the specified routing fields. The data that has the same routing field value is distributed to the same data partition.

FieldSchemas syntax

```
"FieldSchemas": [
  {
    "Index": Boolean,
    "IsArray": Boolean,
    "Analyzer": String,
    "EnableSortAndAgg": Boolean,
    "Store": Boolean,
    "SubFieldSchemas": List,
    "FieldName": String,
    "FieldType": String
  }
]
```

FieldSchemas properties

Property	Type	Required	Editable	Description	Constraint
Index	Boolean	No	No	Specifies whether to enable indexing.	Valid values: • true • false
IsArray	Boolean	No	No	Specifies whether the value of the field is an array.	Valid values: • true • false
Analyzer	String	No	No	The type of the analyzer.	If the field type is set to Text, you can set this parameter. Otherwise, the type of the analyzer is set to single-word tokenization by default. For more information, see Tokenization.
EnableSortAndAgg	Boolean	No	No	Specifies whether to enable the sorting and aggregation features.	Valid values: • true • false
Store	Boolean	No	No	Specifies whether to store the value of the field in the search index.	Valid values: • true • false A value of true indicates that the value of the field is stored in the search index. You can read the value of the field directly from the search index without the need to query the table. This optimizes query performance.
SubFieldSchemas	List	No	No	The list of field schemas for subfields. If the field is a nested field, you must specify this parameter to configure the index types of subfields in the nested field.	None
FieldName	String	Yes	No	The name of the field in the search index, which is also called the column name.	A field in a search index can be a primary key column or an attribute column.
FieldType	String	Yes	No	The type of the field.	Use FieldType.XXX to set the type.

SubFieldSchemas syntax

```
"SubFieldSchemas": [
  {
    "Index": Boolean,
    "IsArray": Boolean,
    "Analyzer": String,
    "EnableSortAndAgg": Boolean,
    "Store": Boolean,
    "FieldName": String,
    "FieldType": String
  }
]
```

SubFieldSchemas properties

Property	Type	Required	Editable	Description	Constraint
Index	Boolean	No	No	Specifies whether to enable indexing.	Valid values: • true • false
IsArray	Boolean	No	No	Specifies whether the value of the field is an array.	Valid values: • true • false
Analyzer	String	No	No	The type of the analyzer.	If the field type is set to Text, you can set this parameter. Otherwise, the type of the analyzer is set to single-word tokenization by default. For more information, see Tokenization.
EnableSortAndAgg	Boolean	No	No	Specifies whether to enable the sorting and aggregation features.	Valid values: • true • false
Store	Boolean	No	No	Specifies whether to store the value of the field in the search index.	Valid values: • true • false A value of true indicates that the value of the field is stored in the search index. You can read the value of the field directly from the search index without the need to query the table. This optimizes query performance.
FieldName	String	Yes	No	The name of the field in the search index, which is also called the column name.	A field in a search index can be a primary key column or an attribute column.
FieldType	String	Yes	No	The type of the field.	Use FieldType.XXX to set the type.

Response parameters

Fn::GetAtt

IndexName: the name of the search index.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "IndexName": {
      "Type": "String",
      "Description": "The index name."
    },
    "InstanceName": {
      "Type": "String",
      "Description": "The name of the OTS instance in which table will locate.",
      "AllowedPattern": "[a-zA-Z][-a-zA-Z0-9]{1,14}[a-zA-Z0-9]"
    },
    "TableName": {
      "Type": "String",
      "Description": "The table name of the OTS instance.",
      "AllowedPattern": "[_a-zA-Z][_a-zA-Z0-9]{0,254}"
    },
    "FieldSchemas": {
      "Type": "Json",
      "Description": "list of field_schema."
    },
    "IndexSort": {
      "Type": "Json",
      "Description": "This parameter specifies how data is sorted. \nBy default, the data is sorted in the same way as the prim
ary key of the table. \nIf the search index contains NESTED fields, data is not sorted by default."
    },
    "IndexSetting": {
      "Type": "Json",
      "Description": "Index settings"
    }
  },
  "Resources": {
    "SearchIndex": {
      "Type": "ALIYUN::OTS::SearchIndex",
      "Properties": {
        "IndexName": {
          "Ref": "IndexName"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "TableName": {
          "Ref": "TableName"
        },
        "FieldSchemas": {
          "Ref": "FieldSchemas"
        },
        "IndexSort": {
          "Ref": "IndexSort"
        },
        "IndexSetting": {
          "Ref": "IndexSetting"
        }
      }
    }
  },
  "Outputs": {
    "IndexName": {
      "Description": "Index name.",
      "Value": {
        "Fn::GetAtt": [
          "SearchIndex",
          "IndexName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  IndexName:
    Type: String
    Description: The index name.
  InstanceName:
    Type: String
    Description: The name of the OTS instance in which table will locate.
    AllowedPattern: '[a-zA-Z][-a-zA-Z0-9]{1,14}[a-zA-Z0-9]'
  TableName:
    Type: String
    Description: The table name of the OTS instance.
    AllowedPattern: '[_a-zA-Z][_a-zA-Z0-9]{0,254}'
  FieldSchemas:
    Type: Json
    Description: list of field_schema.
  IndexSort:
    Type: Json
    Description: >-
      This parameter specifies how data is sorted.
      By default, the data is sorted in the same way as the primary key of the
      table.
      If the search index contains NESTED fields, data is not sorted by default.
  IndexSetting:
    Type: Json
    Description: Index settings
Resources:
  SearchIndex:
    Type: 'ALIYUN::OTS::SearchIndex'
    Properties:
      IndexName:
        Ref: IndexName
      InstanceName:
        Ref: InstanceName
      TableName:
        Ref: TableName
      FieldSchemas:
        Ref: FieldSchemas
      IndexSort:
        Ref: IndexSort
      IndexSetting:
        Ref: IndexSetting
Outputs:
  IndexName:
    Description: Index name.
    Value:
      'Fn::GetAtt':
        - SearchIndex
        - IndexName
```

To view more examples, visit OTS.json and OTS.yml. In the examples, the ALIYUN::OTS::Instance, ALIYUN::OTS::SearchIndex, ALIYUN::OTS::Table, and ALIYUN::OTS::VpcBinder resource types are involved.

52.3. ALIYUN::OTS::Table

ALIYUN::OTS::Table is used to create a table based on a specified schema.

Syntax

```
{
  "Type": "ALIYUN::OTS::Table",
  "Properties": {
    "ReservedThroughput": Map,
    "MaxVersions": Integer,
    "TableName": String,
    "SecondaryIndices": List,
    "DeviationCellVersionInSec": Integer,
    "TimeToLive": Integer,
    "InstanceName": String,
    "PrimaryKey": List,
    "Columns": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ReservedThroughput	Map	No	Yes	The initial reserved read/write throughput settings of the table.	The reserved read/write throughput of a table cannot exceed 5,000 per second. For more information, see ReservedThroughput properties.
MaxVersions	Integer	No	Yes	The maximum number of data versions that can be retained in the table.	Valid values: 1 to 2147483647. Default value: 1.
TableName	String	Yes	No	The name of the table.	None
SecondaryIndices	List	No	No	The list of one or more secondary indices of the table.	For more information, see SecondaryIndices properties.
DeviationCellVersionInSec	Integer	No	Yes	The max version offset between a custom version number and the current system timestamp.	This parameter is used to prevent users from writing data that has a custom version number beyond the valid version range. For example, if the current system timestamp is 10000 and the DeviationCellVersionInSec parameter is set to 1000, the valid version range is [10000 - 1000, 10000 + 1000). Valid values: 1 to 922337203685477580 7. Default value: 86400.

Property	Type	Required	Editable	Description	Constraint
TimeToLive	Integer	No	Yes	The retention period of data stored in the table.	Maximum value: 2147483647. Default value: 1. Unit: seconds. A value of -1 indicates that the data never expires.
InstanceName	String	Yes	No	The name of the instance where the table resides.	None
PrimaryKey	List	Yes	No	All primary key columns of the table.	Valid values: 1 to 4. For more information, see PrimaryKey properties.
Columns	List	No	No	The list of one or more attribute columns of the table.	For more information, see Columns properties.

ReservedThroughput syntax

```
"ReservedThroughput": {
  "Read": Integer,
  "Write": Integer
}
```

ReservedThroughput properties

Property	Type	Required	Editable	Description	Constraint
Read	Integer	Yes	Yes	The number of consumed read CUs or the reserved read throughput of the table.	Default value: 0.
Write	Integer	Yes	Yes	The number of consumed write CUs or the reserved write throughput of the table.	Default value: 0.

SecondaryIndices syntax

```
"SecondaryIndices": [
  {
    "IndexName": String,
    "IndexType": String,
    "Columns": List,
    "PrimaryKeys": List
  }
]
```

SecondaryIndices properties

Property	Type	Required	Editable	Description	Constraint
IndexName	String	Yes	No	The name of the index.	None
IndexType	String	No	No	The type of the index.	Valid values: • Global • Local

Property	Type	Required	Editable	Description	Constraint
Columns	List	Yes	No	The list of one or more columns of the index.	Example: `["name", "email"]` **Note** The property of this parameter is different from Columns properties, which indicates the list of one or more attribute columns of the table.
PrimaryKeys	List	Yes	No	The list of one or more primary keys of the index.	None

PrimaryKey syntax

```
"PrimaryKey": [
  {
    "Type": String,
    "Name": String
  }
]
```

PrimaryKey properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The type of the primary key.	Valid values: • INTEGER • STRING • BINARY
Name	String	Yes	No	The name of the primary key.	None

Columns syntax

```
"Columns": [
  {
    "Type": String,
    "Name": String
  }
]
```

Columns properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The type of the column.	None
Name	String	Yes	No	The name of the column.	None

Response parameters

Fn::GetAtt

TableName: the name of the table.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Table": {
      "Type": "ALIYUN::OTS::Table",
      "Properties": {
        "ReservedThroughput": {
          "Ref": "ReservedThroughput"
        },
        "MaxVersions": {
          "Ref": "MaxVersions"
        },
        "TableName": {
          "Ref": "TableName"
        },
        "SecondaryIndices": {
          "Ref": "SecondaryIndices"
        },
        "DeviationCellVersionInSec": {
          "Ref": "DeviationCellVersionInSec"
        },
        "TimeToLive": {
          "Ref": "TimeToLive"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "PrimaryKey": {
          "Ref": "PrimaryKey"
        },
        "Columns": {
          "Ref": "Columns"
        }
      }
    }
  },
  "Parameters": {
    "ReservedThroughput": {
      "Type": "Json",
      "Description": "The initial reserved read/write throughput setting of the table to be created, the reserved read throughp
ut and reserved write throughput of any table cannot exceed 5000."
    },
    "MaxVersions": {
      "Default": 1,
      "Type": "Number",
      "Description": "The maximum number of versions stored in this table. The valid value is 1-2147483647. Default to 1.",
      "MaxValue": 2147483647,
      "MinValue": 1
    },
    "TableName": {
      "AllowedPattern": "[_a-zA-Z][_a-zA-Z0-9]{0,254}",
      "Type": "String",
      "Description": "The table name of the OTS instance."
    },
    "SecondaryIndices": {
      "Type": "Json",
      "Description": "The secondary indices of the table.",
      "Default": [
        {
          "IndexName": "service_name_index",
          "IndexType": "Global",
          "Columns": ["event_name"],
          "PrimaryKeys": ["account", "service_name"]
        }
      ]
    },
    "DeviationCellVersionInSec": {
      "Default": 86400,
      "Type": "Number",
      "Description": "Maximum version deviation. The purpose is mainly to prohibit writing and expected large data, such as set
```

```
ting the deviation_cell_version_in_sec to 1000, and if the current timestamp is 10000, the timestamp range allowed to be writte
n is [10000 - 1000, 10000 + 1000]. The valid value is 1-9223372036854775807. Defaults to 86400.",
      "MaxValue": 9223372036854775807,
      "MinValue": 1
    },
    "TimeToLive": {
      "Default": -1,
      "Type": "Number",
      "Description": "The retention time of data stored in this table (unit: second). The value maximum is 2147483647 and -1 me
ans never expired. Default to -1.",
      "MaxValue": 2147483647,
      "MinValue": -1
    },
    "InstanceName": {
      "AllowedPattern": "[a-zA-Z][-a-zA-Z0-9]{1,14}[a-zA-Z0-9]",
      "Type": "String",
      "Description": "The name of the OTS instance in which table will locate."
    },
    "PrimaryKey": {
      "MinLength": 1,
      "Type": "Json",
      "Description": "It describes the attribute value of primary key. The number of primary_key should not be less than one an
d not be more than four.",
      "MaxLength": 4
    },
    "Columns": {
      "Type": "Json",
      "Description": "Attribute column for table store."
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Table:
    Type: 'ALIYUN::OTS::Table'
    Properties:
      ReservedThroughput:
        Ref: ReservedThroughput
      MaxVersions:
        Ref: MaxVersions
      TableName:
        Ref: TableName
      SecondaryIndices:
        Ref: SecondaryIndices
      DeviationCellVersionInSec:
        Ref: DeviationCellVersionInSec
      TimeToLive:
        Ref: TimeToLive
      InstanceName:
        Ref: InstanceName
      PrimaryKey:
        Ref: PrimaryKey
      Columns:
        Ref: Columns
Parameters:
  ReservedThroughput:
    Type: Json
    Description: >-
      The initial reserved read/write throughput setting of the table to be
      created, the reserved read throughput and reserved write throughput of any
      table cannot exceed 5000.
  MaxVersions:
    Default: 1
    Type: Number
    Description: >-
      The maximum number of versions stored in this table. The valid value is
      1-2147483647. Default to 1.
    MaxValue: 2147483647
    MinValue: 1
  TableName:
    AllowedPattern: '[_a-zA-Z][_a-zA-Z0-9]{0,254}'
```

```
    Type: String
    Description: The table name of the OTS instance.
  SecondaryIndices:
    Type: Json
    Description: The secondary indices of the table.
    Default:
      - IndexName: service_name_index
        IndexType: Global
        Columns:
          - event_name
        PrimaryKeys:
          - account
          - service_name
  DeviationCellVersionInSec:
    Default: 86400
    Type: Number
    Description: >-
      Maximum version deviation. The purpose is mainly to prohibit writing and
      expected large data, such as setting the deviation_cell_version_in_sec to
      1000, and if the current timestamp is 10000, the timestamp range allowed
      to be written is [10000 - 1000, 10000 + 1000]. The valid value is
      1-9223372036854775807. Defaults to 86400.
    MaxValue: 9223372036854776000
    MinValue: 1
  TimeToLive:
    Default: -1
    Type: Number
    Description: >-
      The retention time of data stored in this table (unit: second). The value
      maximum is 2147483647 and -1 means never expired. Default to -1.
    MaxValue: 2147483647
    MinValue: -1
  InstanceName:
    AllowedPattern: '[a-zA-Z][-a-zA-Z0-9]{1,14}[a-zA-Z0-9]'
    Type: String
    Description: The name of the OTS instance in which table will locate.
  PrimaryKey:
    MinLength: 1
    Type: Json
    Description: >-
      It describes the attribute value of primary key. The number of primary_key
      should not be less than one and not be more than four.
    MaxLength: 4
  Columns:
    Type: Json
    Description: Attribute column for table store.
```

52.4. ALIYUN::OTS::VpcBinder

ALIYUN::OTS::VpcBinder is used to bind a Tablestore instance to a VPC.

Syntax

```
{
  "Type": "ALIYUN::OTS::VpcBinder",
  "Properties": {
    "Vpcs": List,
    "InstanceName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Vpcs	List	Yes	Yes	The VPC binding configurations.	The element type of this parameter is VpcInfo.
InstanceName	String	Yes	No	The name of the instance.	None

Vpcs syntax

```
"Vpcs":[
  {
    "VpcId":String,
    "InstanceVpcName":String,
    "VirtualSwitchId": String,
    "Network": String
  }
]
```

Vpcs properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the VPC.	The VPC and the Tablestore instance must belong to the same account and reside in the same region.
InstanceVpcName	String	Yes	No	The custom name of the VPC.	This name must be unique in the Tablestore instance.
VirtualSwitchId	String	Yes	No	The ID of the vSwitch.	The vSwitch must belong to the previously specified VPC.
Network	String	Yes	No	The network type of the Tablestore instance.	Valid values: • NORMAL: The instance allows requests from any sources. This is the default value. • VPC: The instance only allows requests from all VPCs to which it is bound. • VPC_CONSOLE: The instance only allows requests from the Tablestore console and all VPCs to which it is bound.

Response parameters

Fn::GetAtt

- Domains: the domain names used to access the Tablestore instance in the VPC.
- Endpoints: the private endpoints used to access the Tablestore instance in the VPC.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "VpcBinder": {
      "Type": "ALIYUN::OTS::VpcBinder",
      "Properties": {
        "Vpcs": {
          "Fn::Split": [
            ",",
            {
              "Ref": "Vpcs"
            }
          ]
        },
        "InstanceName": {
          "Ref": "InstanceName"
        }
      }
    }
  },
  "Parameters": {
    "Vpcs": {
      "MinLength": 0,
      "Type": "CommaDelimitedList",
      "Description": "Vpc binding configuration.",
      "MaxLength": 20
    },
    "InstanceName": {
      "Type": "String",
      "Description": "Instance name"
    }
  },
  "Outputs": {
    "Domains": {
      "Description": "The domain names used to access the OTS instance in the VPC.",
      "Value": {
        "Fn::GetAtt": [
          "VpcBinder",
          "Domains"
        ]
      }
    },
    "Endpoints": {
      "Description": "Private network addresses used to access the OTS instance in the VPC.",
      "Value": {
        "Fn::GetAtt": [
          "VpcBinder",
          "Endpoints"
        ]
      }
    }
  }
}
```

53.ApsaraDB for POLARDB

53.1. ALIYUN::POLARDB::Account

ALIYUN::POLARDB::Account is used to create a database account for a specified PolarDB cluster.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::Account",
  "Properties": {
    "DBClusterId": String,
    "AccountDescription": String,
    "AccountName": String,
    "AccountPrivilege": String,
    "DBName": String,
    "AccountType": String,
    "AccountPassword": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBClusterId	String	Yes	No	The ID of the cluster.	None
AccountDescription	String	No	Yes	The description of the database account.	The description must be 2 to 256 characters in length. It cannot start with `http://` or `https://`.
AccountName	String	Yes	No	The name of the database account.	The name can be up to 16 characters in length and can contain lowercase letters, digits, and underscores (_). It must start with a lowercase letter.
AccountPrivilege	String	No	No	The permissions of the database account.	Default value: ReadWrite. Valid values: • ReadWrite • ReadOnly • DMLOnly • DDLOnly **Note** This parameter takes effect only when the AccountType parameter is set to Normal.
DBName	String	No	No	The name of the database on which you want to grant permissions.	Separate multiple database names with commas (,). **Note** This parameter takes effect only when the AccountType parameter is set to Normal.

Property	Type	Required	Editable	Description	Constraint
AccountType	String	No	No	The type of the database account.	Default value: Super. Valid values: • Normal: standard account • Super: privileged account
AccountPassword	String	Yes	Yes	The password of the database account.	The password must be 8 to 32 characters in length and can contain letters, digits, and special characters. Special characters include `! #$%^&*()_+-=`

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AccountDescription": {
      "Type": "String",
      "Description": "The description of the database account. The description must comply with the following rules:\n- It cann
ot start with http:// or https://.\n- It must be 2 to 256 characters in length.",
      "MinLength": 2,
      "MaxLength": 256
    },
    "AccountPrivilege": {
      "Type": "String",
      "Description": "The permissions of the database account on the database. Valid values:\nReadWrite: has read and write per
missions on the database.\nReadOnly: has the read-only permission on the database.\nDMLOnly: runs only data manipulation langua
ge (DML) statements.\nDDLOnly: runs only data definition language (DDL) statements.\nDefault value: ReadWrite.\nSeparate multip
le permissions with a comma (,)."
    },
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster for which a database account is to be created."
    },
    "DBName": {
      "Type": "String",
      "Description": "The name of the database whose access permissions are to be granted to the database account. Separate mul
tiple databases with a comma (,)."
    },
    "AccountType": {
      "Type": "String",
      "Description": "The type of the database account. Valid values:\n- Normal: standard account\n- Super: privileged account\
nDefault value: Super.\nCurrently, POLARDB for PostgreSQL and POLARDB compatible with Oracle do not support standard accounts.\
nYou can create only one privileged account for an ApsaraDB for POLARDB cluster.",
      "AllowedValues": [
        "Normal",
        "Super"
      ]
    },
    "AccountName": {
      "Type": "String",
      "Description": "The name of the database account. The name must comply with the following rules:\n- It must start with a
lowercase letter and consist of lowercase letters, digits, and underscores (_).\n- It can be up to 16 characters in length.",
      "MinLength": 1,
      "MaxLength": 16
    },
    "AccountPassword": {
```

```
      "Type": "String",
      "Description": "The password of the database account. The password must comply with the following rules:\n- It must consi
st of uppercase letters, lowercase letters, digits, and special characters.\n- Special characters include exclamation points (!
), number signs (#), dollar signs ($), percent signs (%), carets (^), ampersands (&), asterisks (*), parentheses (()), undersco
res (_), plus signs (+), hyphens (-), and equal signs (=).\n- It must be 8 to 32 characters in length.",
      "MinLength": 8,
      "MaxLength": 32
    }
  },
  "Resources": {
    "Account": {
      "Type": "ALIYUN::POLARDB::Account",
      "Properties": {
        "AccountDescription": {
          "Ref": "AccountDescription"
        },
        "AccountPrivilege": {
          "Ref": "AccountPrivilege"
        },
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "DBName": {
          "Ref": "DBName"
        },
        "AccountType": {
          "Ref": "AccountType"
        },
        "AccountName": {
          "Ref": "AccountName"
        },
        "AccountPassword": {
          "Ref": "AccountPassword"
        }
      }
    }
  },
  "Outputs": {}
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccountDescription:
    Type: String
    Description: >-
      The description of the database account. The description must comply with
      the following rules:
      - It cannot start with http:// or https://.
      - It must be 2 to 256 characters in length.
    MinLength: 2
    MaxLength: 256
  AccountPrivilege:
    Type: String
    Description: |-
      The permissions of the database account on the database. Valid values:
      ReadWrite: has read and write permissions on the database.
      ReadOnly: has the read-only permission on the database.
      DMLOnly: runs only data manipulation language (DML) statements.
      DDLOnly: runs only data definition language (DDL) statements.
      Default value: ReadWrite.
      Separate multiple permissions with a comma (,).
  DBClusterId:
    Type: String
    Description: >-
      The ID of the ApsaraDB for POLARDB cluster for which a database account is
      to be created.
  DBName:
    Type: String
    Description: >-
      The name of the database whose access permissions are to be granted to the
      database account. Separate multiple databases with a comma (,).
```

```
  AccountType:
    Type: String
    Description: >-
      The type of the database account. Valid values:
      - Normal: standard account
      - Super: privileged account
      Default value: Super.
      Currently, POLARDB for PostgreSQL and POLARDB compatible with Oracle do
      not support standard accounts.
      You can create only one privileged account for an ApsaraDB for POLARDB
      cluster.
    AllowedValues:
      - Normal
      - Super
  AccountName:
    Type: String
    Description: >-
      The name of the database account. The name must comply with the following
      rules:
      - It must start with a lowercase letter and consist of lowercase letters,
      digits, and underscores (_).
      - It can be up to 16 characters in length.
    MinLength: 1
    MaxLength: 16
  AccountPassword:
    Type: String
    Description: >-
      The password of the database account. The password must comply with the
      following rules:
      - It must consist of uppercase letters, lowercase letters, digits, and
      special characters.
      - Special characters include exclamation points (!), number signs (#),
      dollar signs ($), percent signs (%), carets (^), ampersands (&), asterisks
      (*), parentheses (()), underscores (_), plus signs (+), hyphens (-), and
      equal signs (=).
      - It must be 8 to 32 characters in length.
    MinLength: 8
    MaxLength: 32
Resources:
  Account:
    Type: 'ALIYUN::POLARDB::Account'
    Properties:
      AccountDescription:
        Ref: AccountDescription
      AccountPrivilege:
        Ref: AccountPrivilege
      DBClusterId:
        Ref: DBClusterId
      DBName:
        Ref: DBName
      AccountType:
        Ref: AccountType
      AccountName:
        Ref: AccountName
      AccountPassword:
        Ref: AccountPassword
Outputs: {}
```

53.2. ALIYUN::POLARDB::AccountPrivilege

ALIYUN::POLARDB::AccountPrivilege is used to grant access permissions on one or more databases in a specified ApsaraDB for POLARDB cluster to a standard account.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::AccountPrivilege",
  "Properties": {
    "DBClusterId": String,
    "AccountPrivilege": String,
    "DBName": String,
    "AccountName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
DBClusterId	String	Yes	No	The ID of the cluster.	None
AccountPrivilege	String	Yes	No	The permissions of the database account.	Valid values: ReadWrite, ReadOnly, DMLOnly, and DDLOnly. The number of account permissions specified by the AccountPrivilege parameter must be the same as that of database names specified by the DBName parameter. Each account permission must correspond to a database name in sequence.
DBName	String	Yes	No	The name of the database whose access permissions are to be granted to the database account.	You can grant access permissions on one or more databases to the database account. Separate multiple databases with commas (,).
AccountName	String	Yes	No	The name of the database account.	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AccountPrivilege": {
      "Type": "ALIYUN::POLARDB::AccountPrivilege",
      "Properties": {
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "AccountPrivilege": {
          "Ref": "AccountPrivilege"
        },
        "DBName": {
          "Ref": "DBName"
        },
        "AccountName": {
          "Ref": "AccountName"
        }
      }
    }
  },
  "Parameters": {
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster to which a database account belongs."
    },
    "AccountPrivilege": {
      "MinLength": 1,
      "Type": "String",
      "Description": "The permissions of the database account on the database. Valid values: ReadWrite: has read and write perm
issions on the database. ReadOnly: has the read-only permission on the database. DMLOnly: runs only data manipulation language
(DML) statements. DDLOnly: runs only data definition language (DDL) statements.The number of account permissions specified by t
he AccountPrivilege parameter must be the same as that of database names specified by the DBName parameter. Each account permis
sion must correspond to a database name in sequence. Separate multiple permissions with a comma (,)."
    },
    "DBName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "The name of the database whose access permissions are to be granted to the database account. You can gran
t access permissions on one or more databases to the database account. Separate multiple databases with a comma (,)."
    },
    "AccountName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "The name of the database account to be granted access permissions.",
      "MaxLength": 16
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AccountPrivilege:
    Type: ALIYUN::POLARDB::AccountPrivilege
    Properties:
      DBClusterId:
        Ref: DBClusterId
      AccountPrivilege:
        Ref: AccountPrivilege
      DBName:
        Ref: DBName
      AccountName:
        Ref: AccountName
Parameters:
  DBClusterId:
    Type: String
    Description: The ID of the ApsaraDB for POLARDB cluster to which a database account
      belongs.
  AccountPrivilege:
    MinLength: 1
    Type: String
    Description: 'The permissions of the database account on the database. Valid values:
      ReadWrite: has read and write permissions on the database. ReadOnly: has the
      read-only permission on the database. DMLOnly: runs only data manipulation language
      (DML) statements. DDLOnly: runs only data definition language (DDL) statements. The
      number of account permissions specified by the AccountPrivilege parameter must
      be the same as that of database names specified by the DBName parameter. Each
      account permission must correspond to a database name in sequence.Separate multiple
      permissions with a comma (,).'
  DBName:
    MinLength: 1
    Type: String
    Description: The name of the database whose access permissions are to be granted
      to the database account. You can grant access permissions on one or more databases
      to the database account. Separate multiple databases with a comma (,).
  AccountName:
    MinLength: 1
    Type: String
    Description: The name of the database account to be granted access permissions.
    MaxLength: 16
```

53.3. ALIYUN::POLARDB::DBCluster

ALIYUN::POLARDB::DBCluster is used to create a PolarDB cluster.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::DBCluster",
  "Properties": {
    "VpcId": String,
    "DBClusterDescription": String,
    "DBType": String,
    "ClusterNetworkType": String,
    "RenewalStatus": String,
    "AutoRenewPeriod": Integer,
    "Period": Integer,
    "ZoneId": String,
    "SecurityGroupIds": List,
    "Tags": List,
    "SourceResourceId": String,
    "MaintainTime": String,
    "DBVersion": String,
    "CreationOption": String,
    "DBNodeClass": String,
    "VSwitchId": String,
    "SecurityIPList": String,
    "CloneDataPoint": String,
    "PayType": String,
    "CreationCategory": String,
    "BackupRetentionPolicyOnClusterDeletion": String,
    "ResourceGroupId": String,
    "DefaultTimeZone": String,
    "GDNId": String,
    "LowerCaseTableNames": Integer,
    "DBClusterParameters": Map,
    "TDEStatus": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	None.
DBClusterDescription	String	No	Yes	The description of the cluster.	The description must be 2 to 256 characters in length, and can contain letters, digits, commas (,), and hyphens (-). It must start with a letter but cannot start with `http://` or `https://`.
DBType	String	Yes	No	The type of the database engine.	Valid values: • MySQL • PostgreSQL • Oracle
ClusterNetworkType	String	No	No	The network type of the cluster.	Set the value to VPC.

Property	Type	Required	Editable	Description	Constraint
RenewalStatus	String	No	Yes	The auto-renewal status of the cluster.	Default value: Normal. Valid values: • AutoRenewal: The cluster is automatically renewed. • Normal: The cluster is manually renewed. • NotRenewal: The cluster is not renewed. **Note** If you set this property is to NotRenewal, the system sends a notification that indicates the cluster is not renewed three days before the cluster expires. After the cluster expires, the system no longer sends a notification.
AutoRenewPeriod	Integer	No	Yes	The auto-renewal period of the cluster.	Default value: 1. Valid values: • 1 • 2 • 3 • 6 • 12 • 24 • 36 Unit: months.
Period	Integer	No	No	The subscription duration of the cluster.	Valid values: • 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • 12 • 24 • 36 Unit: months.
ZoneId	String	No	No	The zone ID of the cluster.	You can call the DescribeRegions operation to query the zone ID.
SourceResourceId	String	No	No	The ID of the existing ApsaraDB RDS instance or PolarDB cluster.	This property only takes effect when the DBType property is set to MySQL and the DBVersion property is set to 5.6. If the CreationOption property is not set to Normal, you must specify the SourceResourceId property.
SecurityGroupIds	List	No	Yes	The IDs of security groups.	You can specify up to three security groups.
Tags	List	No	Yes	The tags of the cluster.	You can add up to 20 tags. For more information, see Tags property.

Property	Type	Required	Editable	Description	Constraint
MaintainTime	String	No	Yes	The maintenance window of the cluster.	The value must be in the HH:mmZ-HH:mmZ format. For example, if you want to maintain the cluster from 00:00:00 to 01:00:00 (UTC+8), set this property to 16:00Z-17:00Z.
DBVersion	String	Yes	No	The version of the database engine.	• Valid values if the DBType property is set to MySQL: 5.6 and 8.0. • Set the value to 11 if the DBType property is set to PostgreSQL. • Set the value to 11 if the DBType property is set to Oracle.
CreationOption	String	No	No	The method based on which you create the cluster.	Default value: Normal. Valid values: • Normal: creates a PolarDB cluster. • CloneFromPolarDB: clones data from an existing PolarDB cluster to create a PolarDB cluster. • CloneFromRDS: clones data from an existing ApsaraDB RDS instance to create a PolarDB cluster. • MigrationFromRDS: migrates data from an exisitng ApsaraDB RDS instance to create a PolarDB cluster. When you set the DBType property to MySQL and set the DBVersion property to 5.6, you must set the CreationOption property to CloneFromRDS or MigrationFromRDS.
DBNodeClass	String	Yes	No	The specifications of the node.	For more information, see Billable items.
VSwitchId	String	No	No	The vSwitch ID of the cluster.	None.
SecurityIPList	String	No	No	The IP address whitelist of the cluster.	None.
CloneDataPoint	String	No	No	The point in time at which you clone data.	Default value: LATEST. Valid values: • LATEST: the latest point in time. Note When you set the CreationOption property to CloneFromRDS, you must set the CloneDataPoint property to LATEST. • BackupID: the point in time at which a backup set is created. • Timestamp: the historical point in time. Specify the time in the ISO 8601 standard in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC. This property only takes effect when the DBType property is set to MySQL, the DBVersion property is set to 5.6, and the CreationOption property is set to CloneFromRDS or CloneFromPolarDB.
PayType	String	Yes	No	The billing method of the cluster.	Valid values: • Postpaid: the pay-as-you-go billing method • Prepaid: the subscription billing method

Property	Type	Required	Editable	Description	Constraint
CreationCategory	String	No	No	The edition of the cluster.	Set the value to Normal, which specifies Cluster Edition.
BackupRetentionPolicyOnClusterDeletion	String	No	No	The policy based on which the system retains backup sets when the cluster is deleted.	Default value: NONE. Valid values: • ALL: The system permanently retains all backup sets. • LATEST: The system permanently retains the latest backup set. A backup set for the cluster is automatically created before the cluster is deleted. • NONE: The system does not retain backup sets. **Note** This property only takes effect when the DBType property is set to MySQL.
ResourceGroupId	String	No	Yes	The ID of the resource group.	None.
DefaultTimeZone	String	No	No	The time zone of the cluster. The time must be in UTC.	Default value: SYSTEM. The default value is the same as the time zone of the region. You can select a time zone on the hour from -12:00 to +13:00. Example: 00:00. **Note** This property only takes effect when the DBType property is set to MySQL.
GDNId	String	No	No	The ID of the Global Database Network (GDN).	When you set the CreationOption property to CreateGdnStandby, you must specify the GDNId property.
LowerCaseTableNames	Integer	No	No	Specifies whether table names are case-sensitive.	Default value: 1. Valid values: • 1: Table names are not case-sensitive. • 0: Table names are case-sensitive. **Note** This property only takes effect when the DBType property is set to MySQL.
DBClusterParameters	Map	No	Yes	The parameters of the PolarDB cluster.	For more information, see DBClusterParameters property.
TDEStatus	Boolean	No	Yes	Specifies whether to enable Transparent Data Encryption (TDE).	Default value: false. Valid values: • true: enables TDE. **Note** You cannot disable TDE after TDE is enabled. • false: does not enable TDE. **Note** The property only takes effect when the DBType property is set to PostgreSQL or Oracle.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags property

Field	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.

DBClusterParameters syntax

```
"DBClusterParameters": {
  "Parameters": String,
  "EffectiveTime": String
}
```

DBClusterParameters property

Field	Type	Required	Editable	Description	Constraint
Parameters	String	No	Yes	The JSON string that consists of the parameters of the cluster and the parameter values.	All the parameter values are of the STRING type.
EffectiveTime	String	No	Yes	The point in time when the parameters take effect.	Valid values: • Auto: The system determines when the parameters take effect. • Immediately: The parameters immediately take effect after you configure the parameters. • MaintainTime: The parameters take effect during the maintenance window of the cluster.

Return values

Fn::GetAtt

- DBClusterId: the ID of the cluster.
- OrderId: the order ID of the cluster.
- DBNodeIds: the IDs of the nodes in the cluster.
- PrimaryEndpointId: the primary endpoint ID of the cluster.
- CustomEndpointIds: the IDs of custom cluster endpoints.
- CustomConnectionStrings: the custom connection strings of the cluster.
- PrimaryConnectionString: the primary connection string of the cluster.
- ClusterConnectionString: the custom connection string of the cluster.
- ClusterEndpointId: the endpoint ID of the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
  "Parameters": {
    "DefaultTimeZone": {
      "Type": "String",
      "Description": "Set up a time zone (UTC), the value range is as follows:\nSystem:  The default time zone is the same as t
he time zone where the region is located. This is default value.\nOther pickable value range is from -12:00 to +13:00, for exam
ple, 00:00.\nNote: This parameter takes effect only when DBType is MySQL."
    },
    "CloneDataPoint": {
      "Type": "String",
      "Description": "The time point of data to be cloned. Valid values:\nLATEST: clones data of the latest time point.\n<Backu
pID>: clones historical backup data. Specify the ID of the specific backup set.\n<Timestamp>: clones data of a historical time
point. Specify the specific time in\nthe yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC.\nDefault value: LATEST.\nNote\nT
his parameter takes effect only when the DBType parameter is set to MySQL, the DBVersion parameter is set to 5.6, and the Creat
ionOption parameter is set to CloneFromRDS or CloneFromPolarDB.\nIf the CreationOption parameter is set to CloneFromRDS, the va
lue of this parameter must be LATEST.",
      "Default": "LATEST"
    },
    "GDNId": {
      "Type": "String",
      "Description": "The ID of the Global Database Network (GDN).\nNote: This parameter is required when the CreationOption is
CreateGdnStandby."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group."
    },
    "BackupRetentionPolicyOnClusterDeletion": {
      "Type": "String",
      "Description": "The backup set retention policy when deleting a cluster, the value range is as follows:\nALL: Keep all ba
ckups permanently.\nLATEST: Permanently keep the last backup (automatic backup before deletion).\nNONE: The backup set is not r
etained when the cluster is deleted.\nWhen creating a cluster, the default value is NONE, that is, the backup set is not retain
ed when the cluster is deleted.\nNote: This parameter takes effect only when the value of DBType is MySQL.",
      "AllowedValues": [
        "ALL",
        "LATEST",
        "NONE"
      ]
    },
    "SourceResourceId": {
      "Type": "String",
      "Description": "The ID of the source RDS instance or source POLARDB cluster.\nNote\nThis parameter takes effect only when
the DBType parameter is set to MySQL and the DBVersion parameter is set to 5.6.\nThis parameter is required if the CreationOpti
on parameter is not set to Normal."
    },
    "DBType": {
      "Type": "String",
      "Description": "Database type, value:\nMySQL\nPostgreSQL\nOracle",
      "AllowedValues": [
        "MySQL",
        "Oracle",
        "PostgreSQL"
      ]
    },
    "DBVersion": {
      "Type": "String",
      "Description": "The version of the database. Valid values:\nMySQL: 5.6, 5.7 or 8.0\nPostgreSQL: 11\nOracle: 11"
    },
    "ClusterNetworkType": {
      "Type": "String",
      "Description": "The network type of the cluster. Currently, only VPC is supported. Default value: VPC.",
      "AllowedValues": [
        "VPC"
      ],
      "Default": "VPC"
    },
    "SecurityIPList": {
      "Type": "String",
      "Description": "The whitelist of the Apsara PolarDB cluster."
    },
    "DBClusterParameters": {
      "Type": "Json",
      "Description": "Modifies the parameters of a the PolarDB cluster."
    },
    "MaintainTime": {
```

```
      "Type": "String",
      "Description": "The maintainable time of the cluster:\nFormat: HH: mmZ- HH: mmZ.\nExample: 16:00Z-17:00Z, which means 0 t
o 1 (UTC+08:00) for routine maintenance."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "LowerCaseTableNames": {
      "Type": "Number",
      "Description": "Whether the table name is case sensitive, the value range is as follows:\n1: Not case sensitive0: case se
nsitive\nThe default value is 1.\nNote: This parameter takes effect only when the value of DBType is MySQL.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "AutoRenewPeriod": {
      "Type": "Number",
      "Description": "Set the cluster auto renewal time. Valid values: 1, 2, 3, 6, 12, 24, 36. Default to 1.",
      "AllowedValues": [
        1,
        2,
        3,
        6,
        12,
        24,
        36
      ],
      "Default": 1
    },
    "TDEStatus": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable Transparent Data Encryption (TDE). Valid values:\ntrue: enable TDE\nfalse: di
sable TDE (default)\nNote: The parameter takes effect only when DBType is PostgreSQL or Oracle. You cannot disable TDE after it
is enabled.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The zone ID of the cluster. You can call the DescribeRegions operation to query available zones."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The ID of the VSwitch to connect to."
    },
    "RenewalStatus": {
      "Type": "String",
      "Description": "The auto renewal status of the cluster Valid values:\nAutoRenewal: automatically renews the cluster.\nNor
mal: manually renews the cluster.\nNotRenewal: does not renew the cluster.\nDefault value: Normal.\nNote If this parameter is s
et to NotRenewal, the system does not send a reminder for expiration,\nbut only sends an SMS message three days before the clus
ter expires to remind you\nthat the cluster is not renewed.",
      "AllowedValues": [
        "AutoRenewal",
        "Normal",
        "NotRenewal"
      ],
      "Default": "Normal"
    },
    "DBClusterDescription": {
      "Type": "String",
      "Description": "The description of the cluster. The description must comply with the following rules:\nIt must start with
a Chinese character or an English letter.\nIt can contain Chinese and English characters, digits, underscores (_), and hyphens
(-).\nIt cannot start with http:// or https://.\nIt must be 2 to 256 characters in length.",
      "MinLength": 2,
      "MaxLength": 256
    },
```

```
    "Period": {
      "Type": "Number",
      "Description": "The subscription period of the cluster in month. Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36
      ]
    },
    "PayType": {
      "Type": "String",
      "Description": "The billing method of the cluster. Valid values:\nPostpaid: pay-as-you-go\nPrepaid: subscription",
      "AllowedValues": [
        "Postpaid",
        "Prepaid"
      ]
    },
    "CreationCategory": {
      "Type": "String",
      "Description": "Cluster series. The value could be Normal (standard version)."
    },
    "SecurityGroupIds": {
      "Type": "Json",
      "Description": "The ID of the security group. \nYou can add up to three security groups to a cluster.\n"
    },
    "DBNodeClass": {
      "Type": "String",
      "Description": "The node specifications of the cluster. For more information, see Specifications and pricing."
    },
    "CreationOption": {
      "Type": "String",
      "Description": "The method for creating an ApsaraDB for POLARDB cluster. Valid values:\nNormal: creates an ApsaraDB for P
OLARDB cluster.\nCloneFromPolarDB: clones data from an existing ApsaraDB for POLARDB cluster to a new ApsaraDB for POLARDB clus
ter.\nCloneFromRDS: clones data from an existing ApsaraDB for RDS instance to a new ApsaraDB\nfor POLARDB cluster.\nMigrationFr
omRDS: migrates data from an existing ApsaraDB for RDS instance to a new ApsaraDB for POLARDB cluster. The created ApsaraDB for
POLARDB cluster is in read-only mode and has binary logs enabled by default.\nCreateGdnStandby: Create a secondary cluster.\nDe
fault value: Normal.\nNote:\nWhen DBType is MySQL and DBVersion is 5.6, this parameter can be specified as CloneFromRDS or Migr
ationFromRDS.\nWhen DBType is MySQL and DBVersion is 8.0, this parameter can be specified as CreateGdnStandby.",
      "AllowedValues": [
        "CloneFromPolarDB",
        "CloneFromRDS",
        "MigrationFromRDS",
        "Normal",
        "CreateGdnStandby"
      ],
      "Default": "Normal"
    },
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the VPC to connect to."
    }
  },
  "Resources": {
    "DBCluster": {
      "Type": "ALIYUN::POLARDB::DBCluster",
      "Properties": {
        "DefaultTimeZone": {
          "Ref": "DefaultTimeZone"
        },
        "CloneDataPoint": {
          "Ref": "CloneDataPoint"
        },
        "GDNId": {
          "Ref": "GDNId"
        },
```

```
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "BackupRetentionPolicyOnClusterDeletion": {
          "Ref": "BackupRetentionPolicyOnClusterDeletion"
        },
        "SourceResourceId": {
          "Ref": "SourceResourceId"
        },
        "DBType": {
          "Ref": "DBType"
        },
        "DBVersion": {
          "Ref": "DBVersion"
        },
        "ClusterNetworkType": {
          "Ref": "ClusterNetworkType"
        },
        "SecurityIPList": {
          "Ref": "SecurityIPList"
        },
        "DBClusterParameters": {
          "Ref": "DBClusterParameters"
        },
        "MaintainTime": {
          "Ref": "MaintainTime"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "LowerCaseTableNames": {
          "Ref": "LowerCaseTableNames"
        },
        "AutoRenewPeriod": {
          "Ref": "AutoRenewPeriod"
        },
        "TDEStatus": {
          "Ref": "TDEStatus"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "RenewalStatus": {
          "Ref": "RenewalStatus"
        },
        "DBClusterDescription": {
          "Ref": "DBClusterDescription"
        },
        "Period": {
          "Ref": "Period"
        },
        "PayType": {
          "Ref": "PayType"
        },
        "CreationCategory": {
          "Ref": "CreationCategory"
        },
        "SecurityGroupIds": {
          "Ref": "SecurityGroupIds"
        },
        "DBNodeClass": {
          "Ref": "DBNodeClass"
        },
        "CreationOption": {
          "Ref": "CreationOption"
        },
        "VpcId": {
          "Ref": "VpcId"
        }
      }
    }
  }
```

```
  },
  "Outputs": {
    "DBNodeIds": {
      "Description": "The ID list of cluster nodes.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "DBNodeIds"
        ]
      }
    },
    "PrimaryConnectionString": {
      "Description": "The primary connection string of the db cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "PrimaryConnectionString"
        ]
      }
    },
    "ClusterConnectionString": {
      "Description": "The cluster connection string of the db cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "ClusterConnectionString"
        ]
      }
    },
    "ClusterEndpointId": {
      "Description": "The cluster endpoint ID of the db cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "ClusterEndpointId"
        ]
      }
    },
    "DBClusterId": {
      "Description": "The ID of the ApsaraDB for POLARDB cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "DBClusterId"
        ]
      }
    },
    "CustomEndpointIds": {
      "Description": "The custom endpoint IDs of the db cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "CustomEndpointIds"
        ]
      }
    },
    "PrimaryEndpointId": {
      "Description": "The primary endpoint ID of the db cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "PrimaryEndpointId"
        ]
      }
    },
    "OrderId": {
      "Description": "The Order ID.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "OrderId"
        ]
      }
    },
    "CustomConnectionStrings": {
```

```
      "Description": "The custom connection strings of the db cluster.",
      "Value": {
        "Fn::GetAtt": [
          "DBCluster",
          "CustomConnectionStrings"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoRenewPeriod:
    AllowedValues:
    - 1
    - 2
    - 3
    - 6
    - 12
    - 24
    - 36
    Default: 1
    Description: 'Set the cluster auto renewal time. Valid values: 1, 2, 3, 6, 12,
      24, 36. Default to 1.'
    Type: Number
  BackupRetentionPolicyOnClusterDeletion:
    AllowedValues:
    - ALL
    - LATEST
    - NONE
    Description: 'The backup set retention policy when deleting a cluster, the value
      range is as follows:
      ALL: Keep all backups permanently.
      LATEST: Permanently keep the last backup (automatic backup before deletion).
      NONE: The backup set is not retained when the cluster is deleted.
      When creating a cluster, the default value is NONE, that is, the backup set
      is not retained when the cluster is deleted.
      Note: This parameter takes effect only when the value of DBType is MySQL.'
    Type: String
  CloneDataPoint:
    Default: LATEST
    Description: 'The time point of data to be cloned. Valid values:
      LATEST: clones data of the latest time point.
      <BackupID>: clones historical backup data. Specify the ID of the specific backup
      set.
      <Timestamp>: clones data of a historical time point. Specify the specific time
      in
      the yyyy-MM-ddTHH:mm:ssZ format. The time must be in UTC.
      Default value: LATEST.
      Note
      This parameter takes effect only when the DBType parameter is set to MySQL,
      the DBVersion parameter is set to 5.6, and the CreationOption parameter is set
      to CloneFromRDS or CloneFromPolarDB.
      If the CreationOption parameter is set to CloneFromRDS, the value of this parameter
      must be LATEST.'
    Type: String
  ClusterNetworkType:
    AllowedValues:
    - VPC
    Default: VPC
    Description: 'The network type of the cluster. Currently, only VPC is supported.
      Default value: VPC.'
    Type: String
  CreationCategory:
    Description: Cluster series. The value could be Normal (standard version).
    Type: String
  CreationOption:
    AllowedValues:
    - CloneFromPolarDB
    - CloneFromRDS
```

```
    - MigrationFromRDS
    - Normal
    - CreateGdnStandby
    Default: Normal
    Description: 'The method for creating an ApsaraDB for POLARDB cluster. Valid values:
      Normal: creates an ApsaraDB for POLARDB cluster.
      CloneFromPolarDB: clones data from an existing ApsaraDB for POLARDB cluster
      to a new ApsaraDB for POLARDB cluster.
      CloneFromRDS: clones data from an existing ApsaraDB for RDS instance to a new
      ApsaraDB
      for POLARDB cluster.
      MigrationFromRDS: migrates data from an existing ApsaraDB for RDS instance to
      a new ApsaraDB for POLARDB cluster. The created ApsaraDB for POLARDB cluster
      is in read-only mode and has binary logs enabled by default.
      CreateGdnStandby: Create a secondary cluster.
      Default value: Normal.
      Note:
      When DBType is MySQL and DBVersion is 5.6, this parameter can be specified as
      CloneFromRDS or MigrationFromRDS.
      When DBType is MySQL and DBVersion is 8.0, this parameter can be specified as
      CreateGdnStandby.'
    Type: String
  DBClusterDescription:
    Description: 'The description of the cluster. The description must comply with
      the following rules:
      It must start with a Chinese character or an English letter.
      It can contain Chinese and English characters, digits, underscores (_), and
      hyphens (-).
      It cannot start with http:// or https://.
      It must be 2 to 256 characters in length.'
    MaxLength: 256
    MinLength: 2
    Type: String
  DBClusterParameters:
    Description: Modifies the parameters of a the PolarDB cluster.
    Type: Json
  DBNodeClass:
    Description: The node specifications of the cluster. For more information, see
      Specifications and pricing.
    Type: String
  DBType:
    AllowedValues:
    - MySQL
    - Oracle
    - PostgreSQL
    Description: 'Database type, value:
      MySQL
      PostgreSQL
      Oracle'
    Type: String
  DBVersion:
    Description: 'The version of the database. Valid values:
      MySQL: 5.6, 5.7 or 8.0
      PostgreSQL: 11
      Oracle: 11'
    Type: String
  DefaultTimeZone:
    Description: 'Set up a time zone (UTC), the value range is as follows:
      System:  The default time zone is the same as the time zone where the region
      is located. This is default value.
      Other pickable value range is from -12:00 to +13:00, for example, 00:00.
      Note: This parameter takes effect only when DBType is MySQL.'
    Type: String
  GDNId:
    Description: 'The ID of the Global Database Network (GDN).
      Note: This parameter is required when the CreationOption is CreateGdnStandby.'
    Type: String
  LowerCaseTableNames:
    AllowedValues:
    - 0
    - 1
    Description: 'Whether the table name is case sensitive, the value range is as
      follows:
      1: Not case sensitive0: case sensitive
```

```
      The default value is 1.
      Note: This parameter takes effect only when the value of DBType is MySQL.'
    Type: Number
  MaintainTime:
    Description: 'The maintainable time of the cluster:
      Format: HH: mmZ- HH: mmZ.
      Example: 16:00Z-17:00Z, which means 0 to 1 (UTC+08:00) for routine maintenance.'
    Type: String
  PayType:
    AllowedValues:
    - Postpaid
    - Prepaid
    Description: 'The billing method of the cluster. Valid values:
      Postpaid: pay-as-you-go
      Prepaid: subscription'
    Type: String
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    Description: 'The subscription period of the cluster in month. Valid values: 1,
      2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36.'
    Type: Number
  RenewalStatus:
    AllowedValues:
    - AutoRenewal
    - Normal
    - NotRenewal
    Default: Normal
    Description: 'The auto renewal status of the cluster Valid values:
      AutoRenewal: automatically renews the cluster.
      Normal: manually renews the cluster.
      NotRenewal: does not renew the cluster.
      Default value: Normal.
      Note If this parameter is set to NotRenewal, the system does not send a reminder
      for expiration,
      but only sends an SMS message three days before the cluster expires to remind
      you
      that the cluster is not renewed.'
    Type: String
  ResourceGroupId:
    Description: The ID of the resource group.
    Type: String
  SecurityGroupIds:
    Description: "The ID of the security group. \nYou can add up to three security\
      \ groups to a cluster.\n"
    Type: Json
  SecurityIPList:
    Description: The whitelist of the Apsara PolarDB cluster.
    Type: String
  SourceResourceId:
    Description: 'The ID of the source RDS instance or source POLARDB cluster.
      Note
      This parameter takes effect only when the DBType parameter is set to MySQL and
      the DBVersion parameter is set to 5.6.
      This parameter is required if the CreationOption parameter is not set to Normal.'
    Type: String
  TDEStatus:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable Transparent Data Encryption (TDE). Valid
      values:
```

```
      values:
      true: enable TDE
      false: disable TDE (default)
      Note: The parameter takes effect only when DBType is PostgreSQL or Oracle. You
      cannot disable TDE after it is enabled.'
    Type: Boolean
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: The ID of the VSwitch to connect to.
    Type: String
  VpcId:
    Description: The ID of the VPC to connect to.
    Type: String
  ZoneId:
    Description: The zone ID of the cluster. You can call the DescribeRegions operation
      to query available zones.
    Type: String
Resources:
  DBCluster:
    Properties:
      AutoRenewPeriod:
        Ref: AutoRenewPeriod
      BackupRetentionPolicyOnClusterDeletion:
        Ref: BackupRetentionPolicyOnClusterDeletion
      CloneDataPoint:
        Ref: CloneDataPoint
      ClusterNetworkType:
        Ref: ClusterNetworkType
      CreationCategory:
        Ref: CreationCategory
      CreationOption:
        Ref: CreationOption
      DBClusterDescription:
        Ref: DBClusterDescription
      DBClusterParameters:
        Ref: DBClusterParameters
      DBNodeClass:
        Ref: DBNodeClass
      DBType:
        Ref: DBType
      DBVersion:
        Ref: DBVersion
      DefaultTimeZone:
        Ref: DefaultTimeZone
      GDNId:
        Ref: GDNId
      LowerCaseTableNames:
        Ref: LowerCaseTableNames
      MaintainTime:
        Ref: MaintainTime
      PayType:
        Ref: PayType
      Period:
        Ref: Period
      RenewalStatus:
        Ref: RenewalStatus
      ResourceGroupId:
        Ref: ResourceGroupId
      SecurityGroupIds:
        Ref: SecurityGroupIds
      SecurityIPList:
        Ref: SecurityIPList
      SourceResourceId:
        Ref: SourceResourceId
      TDEStatus:
        Ref: TDEStatus
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VpcId:
```

```
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::POLARDB::DBCluster
Outputs:
  ClusterConnectionString:
    Description: The cluster connection string of the db cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - ClusterConnectionString
  ClusterEndpointId:
    Description: The cluster endpoint ID of the db cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - ClusterEndpointId
  CustomConnectionStrings:
    Description: The custom connection strings of the db cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - CustomConnectionStrings
  CustomEndpointIds:
    Description: The custom endpoint IDs of the db cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - CustomEndpointIds
  DBClusterId:
    Description: The ID of the ApsaraDB for POLARDB cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - DBClusterId
  DBNodeIds:
    Description: The ID list of cluster nodes.
    Value:
      Fn::GetAtt:
      - DBCluster
      - DBNodeIds
  OrderId:
    Description: The Order ID.
    Value:
      Fn::GetAtt:
      - DBCluster
      - OrderId
  PrimaryConnectionString:
    Description: The primary connection string of the db cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - PrimaryConnectionString
  PrimaryEndpointId:
    Description: The primary endpoint ID of the db cluster.
    Value:
      Fn::GetAtt:
      - DBCluster
      - PrimaryEndpointId
```

To view more examples, visit POLARDB.json and POLARDB.yml. In the examples, the ALIYUN::POLARDB::DBCluster, ALIYUN::POLARDB::Account, ALIYUN::POLARDB::DBInstance, ALIYUN::POLARDB::DBNodes, ALIYUN::POLARDB::AccountPrivilege, ALIYUN::POLARDB::DBClusterAccessWhiteList, and ALIYUN::POLARDB::DBClusterEndpointAddress resource types are involved.

53.4. ALIYUN::POLARDB::DBClusterAccessWhiteList

ALIYUN::POLARDB::DBClusterAccessWhiteList is used to modify the list of IP addresses that are allowed to access an ApsaraDB for POLARDB cluster.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::DBClusterAccessWhiteList",
  "Properties": {
    "DBClusterId": String,
    "DBClusterIPArrayName": String,
    "SecurityIps": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
DBClusterId	String	Yes	No	The ID of the ApsaraDB for POLARDB cluster.	None
DBClusterIPArrayName	String	No	No	The name of the IP address whitelist.	You can create up to 50 whitelists for an ApsaraDB for POLARDB cluster. Default value: Default.
SecurityIps	String	Yes	Yes	The list of IP addresses in the whitelist.	Separate multiple IP addresses with commas (,). The following two formats are supported: • Standard IP address format, such as 10.23.12.24. • Classless Inter-Domain Routing (CIDR) format, such as 10.23.12.24/24 (where /24 indicates the number of bits for the prefix of the IP address, in the range of 1 to 32). A whitelist can contain up to 1,000 IP addresses.

Response parameters

Fn::GetAtt

DBClusterId: the ID of the cluster.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DBClusterAccessWhiteList": {
      "Type": "ALIYUN::POLARDB::DBClusterAccessWhiteList",
      "Properties": {
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "DBClusterIPArrayName": {
          "Ref": "DBClusterIPArrayName"
        },
        "SecurityIps": {
          "Ref": "SecurityIps"
        }
      }
    }
  },
  "Parameters": {
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster whose IP address whitelist is to be modified."
    },
    "DBClusterIPArrayName": {
      "MinLength": 1,
      "Type": "String",
      "Description": "The name of the IP address whitelist group. If you do not specify this parameter,\nthe Default whitelist
group is modified by default.\nNote You can create up to 50 whitelist groups for an ApsaraDB for POLARDB cluster."
    },
    "SecurityIps": {
      "Type": "String",
      "Description": "The IP addresses to be added to the IP address whitelist group to be modified. Each\nwhitelist group can
contain a maximum of 1,000 IP addresses. Separate multiple IP\naddresses with a comma (,). The following two formats are suppor
ted:\nIP address: for example, 10.23.12.24.\nClassless inter-domain routing (CIDR) block: for example, 10.23.12.24/24, where th
e\nsuffix /24 indicates the number of bits for the prefix of the IP address. The suffix\nranges from 1 to 32."
    }
  },
  "Outputs": {
    "DBClusterId": {
      "Description": "The ID of the ApsaraDB for POLARDB cluster whose IP address whitelist is to be modified.",
      "Value": {
        "Fn::GetAtt": [
          "DBClusterAccessWhiteList",
          "DBClusterId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DBClusterAccessWhiteList:
    Type: ALIYUN::POLARDB::DBClusterAccessWhiteList
    Properties:
      DBClusterId:
        Ref: DBClusterId
      DBClusterIPArrayName:
        Ref: DBClusterIPArrayName
      SecurityIps:
        Ref: SecurityIps
Parameters:
  DBClusterId:
    Type: String
    Description: The ID of the ApsaraDB for POLARDB cluster whose IP address whitelist
      is to be modified.
  DBClusterIPArrayName:
    MinLength: 1
    Type: String
    Description: |-
      The name of the IP address whitelist group. If you do not specify this parameter,
      the Default whitelist group is modified by default.
      Note You can create up to 50 whitelist groups for an ApsaraDB for POLARDB cluster.
  SecurityIps:
    Type: String
    Description: |-
      The IP addresses to be added to the IP address whitelist group to be modified. Each
      whitelist group can contain a maximum of 1,000 IP addresses. Separate multiple IP
      addresses with a comma (,). The following two formats are supported:
      IP address: for example, 10.23.12.24.
      Classless inter-domain routing (CIDR) block: for example, 10.23.12.24/24, where the
      suffix /24 indicates the number of bits for the prefix of the IP address. The suffix
      ranges from 1 to 32.
Outputs:
  DBClusterId:
    Description: The ID of the ApsaraDB for POLARDB cluster whose IP address whitelist
      is to be modified.
    Value:
      Fn::GetAtt:
      - DBClusterAccessWhiteList
      - DBClusterId
```

53.5. ALIYUN::POLARDB::DBClusterEndpoint

ALIYUN::POLARDB::DBClusterEndpoint is used to create a custom endpoint for a PolarDB cluster.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::DBClusterEndpoint",
  "Properties": {
    "DBClusterId": String,
    "ReadWriteMode": String,
    "EndpointType": String,
    "AutoAddNewNodes": String,
    "Nodes": List,
    "EndpointConfig": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBClusterId	String	Yes	No	The ID of the cluster.	None

Property	Type	Required	Editable	Description	Constraint
ReadWriteMode	String	No	Yes	The read/write mode.	Default value: ReadOnly. Valid values: • ReadWrite: receives and forwards read and write requests. Automatic read/write splitting is enabled. • ReadOnly: receives and forwards only read requests.
EndpointType	String	No	No	The type of the custom cluster endpoint.	Set the value to Custom.
AutoAddNewNodes	String	No	Yes	Specifies whether new nodes are automatically associated with the custom cluster endpoint.	Default value: Disable. Valid values: • Enable • Disable
Nodes	List	No	Yes	The nodes used to process read requests.	Example: `["pi-bpsg35x****", "pi-bp3ddh****"]`. At least two nodes must be specified for this parameter. If you do not specify this parameter, all nodes of the cluster are used to process read requests sent to the endpoint.
EndpointConfig	Map	No	Yes	The consistency level.	For more information, see EndpointConfig properties.

EndpointConfig syntax

```
"EndpointConfig": {
  "ConsistLevel": String
}
```

EndpointConfig properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ConsistLevel	String	No	Yes	The consistency level.	Default value: 1. Valid values: • 0: eventual consistency Note If the ReadWriteMode parameter is set to ReadOnly, the consistency level must be 0. • 1: session consistency

Response parameters

Fn::GetAtt

- DBEndpointId: the ID of the cluster endpoint.
- ConnectionString: the connection string of the cluster.
- Addresses: the IP addresses.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DBClusterEndpoint": {
      "Type": "ALIYUN::POLARDB::DBClusterEndpoint",
      "Properties": {
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "ReadWriteMode": {
          "Ref": "ReadWriteMode"
        },
        "EndpointConfig": {
          "Ref": "EndpointConfig"
        },
        "AutoAddNewNodes": {
          "Ref": "AutoAddNewNodes"
        },
        "Nodes": {
          "Fn::Split": [
            ",",
            {
              "Ref": "Nodes"
            }
          ]
        },
        "EndpointType": {
          "Ref": "EndpointType"
        }
      }
    }
  },
  "Parameters": {
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster for which a custom connection point is to be created."
    },
    "ReadWriteMode": {
      "Default": "ReadOnly",
      "Type": "String",
      "Description": "The read/write mode of the cluster connection point. Valid values: ReadWrite: receives and forwards read
```

```
      "Description": "The read/write mode of the cluster connection point. Valid values: ReadWrite: receives and forwards read
and write requests (automatic read-write splitting). ReadOnly: receives and forwards only read requests. Default value: ReadOnl
y.",
      "AllowedValues": [
        "ReadOnly",
        "ReadWrite"
      ]
    },
    "EndpointConfig": {
      "Type": "Json",
      "Description": ""
    },
    "AutoAddNewNodes": {
      "Default": "Disable",
      "Type": "String",
      "Description": "Specifies whether a newly added node is automatically added to this connection point.\nValid values: Enab
le, Disable.\nDefault value: Disable.",
      "AllowedValues": [
        "Disable",
        "Enable"
      ]
    },
    "Nodes": {
      "MinLength": 2,
      "Type": "CommaDelimitedList",
      "Description": "The nodes to be added to this connection point to process read requests from this connection point. Add a
t least two nodes.\nIf you do not specify this parameter, all nodes of the cluster are added to this connection point by defaul
t."
    },
    "EndpointType": {
      "Default": "Custom",
      "Type": "String",
      "Description": "The type of the cluster connection point. Set this parameter to Custom."
    }
  },
  "Outputs": {
    "DBEndpointId": {
      "Description": "DB cluster endpoint ID. E.g. pe-xxxxxxxx.",
      "Value": {
        "Fn::GetAtt": [
          "DBClusterEndpoint",
          "DBEndpointId"
        ]
      }
    },
    "ConnectionString": {
      "Description": "The first connection string of the db cluster endpoint.",
      "Value": {
        "Fn::GetAtt": [
          "DBClusterEndpoint",
          "ConnectionString"
        ]
      }
    },
    "Addresses": {
      "Description": "The address items of the db cluster endpoint.",
      "Value": {
        "Fn::GetAtt": [
          "DBClusterEndpoint",
          "Addresses"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DBClusterEndpoint:
    Type: ALIYUN::POLARDB::DBClusterEndpoint
    Properties:
      DBClusterId:
```

```
        Ref: DBClusterId
      ReadWriteMode:
        Ref: ReadWriteMode
      EndpointConfig:
        Ref: EndpointConfig
      AutoAddNewNodes:
        Ref: AutoAddNewNodes
      Nodes:
        Fn::Split:
        - ","
        - Ref: Nodes
      EndpointType:
        Ref: EndpointType
Parameters:
  DBClusterId:
    Type: String
    Description: The ID of the ApsaraDB for POLARDB cluster for which a custom connection
      point is to be created.
  ReadWriteMode:
    Default: ReadOnly
    Type: String
    Description: 'The read/write mode of the cluster connection point. Valid values:ReadWrite:
      receives and forwards read and write requests (automatic read-write splitting).ReadOnly:
      receives and forwards only read requests.Default value: ReadOnly.'
    AllowedValues:
    - ReadOnly
    - ReadWrite
  EndpointConfig:
    Type: Json
    Description: ''
  AutoAddNewNodes:
    Default: Disable
    Type: String
    Description: |-
      Specifies whether a newly added node is automatically added to this connection point.
      Valid values: Enable, Disable.
      Default value: Disable.
    AllowedValues:
    - Disable
    - Enable
  Nodes:
    MinLength: 2
    Type: CommaDelimitedList
    Description: |-
      The nodes to be added to this connection point to process read requests from this connection point. Add at least two node
s.
      If you do not specify this parameter, all nodes of the cluster are added to this connection point by default.
  EndpointType:
    Default: Custom
    Type: String
    Description: The type of the cluster connection point. Set this parameter to Custom.
Outputs:
  DBEndpointId:
    Description: DB cluster endpoint ID. E.g. pe-xxxxxxxx.
    Value:
      Fn::GetAtt:
      - DBClusterEndpoint
      - DBEndpointId
  ConnectionString:
    Description: The first connection string of the db cluster endpoint.
    Value:
      Fn::GetAtt:
      - DBClusterEndpoint
      - ConnectionString
  Addresses:
    Description: The address items of the db cluster endpoint.
    Value:
      Fn::GetAtt:
      - DBClusterEndpoint
      - Addresses
```

53.6. ALIYUN::POLARDB::DBClusterEndpointAddress

ALIYUN::POLARDB::DBClusterEndpointAddress is used to create a public endpoint for an Apsara PolarDB cluster. The public endpoint can be a primary endpoint, the default cluster endpoint, or a custom cluster endpoint.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::DBClusterEndpointAddress",
  "Properties": {
    "DBClusterId": String,
    "ConnectionStringPrefix": String,
    "DBEndpointId": String,
    "NetType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBClusterId	String	Yes	No	The ID of the cluster.	None.
DBEndpointId	String	Yes	No	The ID of the cluster endpoint.	You can call the operation to query the ID of the cluster endpoint.
ConnectionStringPrefix	String	No	Yes	The prefix of the cluster endpoint.	The prefix must be more than six characters in length, and can contain lowercase letters, digits, and hyphens (-). It must start with a letter and cannot end with a hyphen (-).
NetType	String	No	No	The network type of the cluster endpoint.	Valid values: • Public • Private Default value: Public.

Response parameters

Fn::GetAtt

- ConnectionString: the connection string of the cluster.
- Address: the IP address.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DBClusterEndpointAddress": {
      "Type": "ALIYUN::POLARDB::DBClusterEndpointAddress",
      "Properties": {
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "ConnectionStringPrefix": {
          "Ref": "ConnectionStringPrefix"
        },
        "DBEndpointId": {
          "Ref": "DBEndpointId"
        },
        "NetType": {
          "Ref": "NetType"
        }
      }
    }
  },
  "Parameters": {
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster for which a public connection point is to be created."
    },
    "ConnectionStringPrefix": {
      "AllowedPattern": "[a-z][-a-z0-9]{4,28}[a-z0-9]",
      "Type": "String",
      "Description": "The prefix of the connection string. The prefix must comply with the following rules: It must start with
a letter and consist of lowercase letters, digits, and hyphens(-), cannot end with a dash. The length is 6~30 characters."
    },
    "DBEndpointId": {
      "Type": "String",
      "Description": "The ID of the cluster connection point."
    },
    "NetType": {
      "Default": "Public",
      "Type": "String",
      "Description": "The network type of the connection string. If set to Public, ROS will create, modify and delete Public ad
dress for you. If set to Private, ROS will only modify Private address for you. Default to Public.",
      "AllowedValues": [
        "Public",
        "Private"
      ]
    }
  },
  "Outputs": {
    "ConnectionString": {
      "Description": "The connection string of the endpoint address.",
      "Value": {
        "Fn::GetAtt": [
          "DBClusterEndpointAddress",
          "ConnectionString"
        ]
      }
    },
    "Address": {
      "Description": "The details of the endpoint address.",
      "Value": {
        "Fn::GetAtt": [
          "DBClusterEndpointAddress",
          "Address"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DBClusterEndpointAddress:
    Type: ALIYUN::POLARDB::DBClusterEndpointAddress
    Properties:
      DBClusterId:
        Ref: DBClusterId
      ConnectionStringPrefix:
        Ref: ConnectionStringPrefix
      DBEndpointId:
        Ref: DBEndpointId
      NetType:
        Ref: NetType
Parameters:
  DBClusterId:
    Type: String
    Description: The ID of the ApsaraDB for POLARDB cluster for which a public connection
      point is to be created.
  ConnectionStringPrefix:
    AllowedPattern: "[a-z][-a-z0-9]{4,28}[a-z0-9]"
    Type: String
    Description: The prefix of the connection string. The prefix must comply with
      the following rules: It must start with a letter and consist of lowercase letters,
      digits, and hyphens (-), cannot end with a dash.The length is 6~30 characters.
  DBEndpointId:
    Type: String
    Description: The ID of the cluster connection point.
  NetType:
    Default: Public
    Type: String
    Description: The network type of the connection string. If set to Public, ROS
      will create, modify and delete Public address for you. If set to Private, ROS
      will only modify Private address for you. Default to Public.
    AllowedValues:
    - Public
    - Private
Outputs:
  ConnectionString:
    Description: The connection string of the endpoint address.
    Value:
      Fn::GetAtt:
      - DBClusterEndpointAddress
      - ConnectionString
  Address:
    Description: The details of the endpoint address.
    Value:
      Fn::GetAtt:
      - DBClusterEndpointAddress
      - Address
```

53.7. ALIYUN::POLARDB::DBInstance

ALIYUN::POLARDB::DBInstance is used to create a database in a PolarDB cluster.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::DBInstance",
  "Properties": {
    "DBClusterId": String,
    "CharacterSetName": String,
    "DBDescription": String,
    "AccountName": String,
    "AccountPrivilege": String,
    "DBName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBClusterId	String	Yes	No	The ID of the cluster.	None
CharacterSetName	String	Yes	No	The character set of the database.	For more information, see Character set tables.
DBDescription	String	No	Yes	The description of the database.	The description must be 2 to 256 characters in length. It cannot start with `http://` or `https://`.
AccountName	String	No	No	The name of the database account.	None
AccountPrivilege	String	No	No	The permissions of the database account.	Default value: ReadWrite. Valid values: • ReadWrite • ReadOnly • DMLOnly • DDLOnly
DBName	String	Yes	No	The name of the database.	The name can be up to 64 characters in length. It must start with a lowercase letter and end with a letter or digit. The name can contain letters, digits, hyphens (-), and underscores (_).

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DBInstance": {
      "Type": "ALIYUN::POLARDB::DBInstance",
      "Properties": {
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "CharacterSetName": {
          "Ref": "CharacterSetName"
        },
        "DBDescription": {
          "Ref": "DBDescription"
        },
        "AccountName": {
          "Ref": "AccountName"
        },
        "AccountPrivilege": {
          "Ref": "AccountPrivilege"
        },
        "DBName": {
          "Ref": "DBName"
        }
      }
    }
  },
  "Parameters": {
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster for which a database is to be created."
    },
    "CharacterSetName": {
      "Type": "String",
      "Description": "The character set of the database."
    },
    "DBDescription": {
      "MinLength": 2,
      "Type": "String",
      "Description": "The description of the database. Valid values:\nIt cannot start with http:// or https://.\nIt must be 2 t
o 256 characters in length.",
      "MaxLength": 256
    },
    "AccountName": {
      "Type": "String",
      "Description": "The name of the database account to be used."
    },
    "AccountPrivilege": {
      "Default": "ReadWrite",
      "Type": "String",
      "Description": "The permissions of the database account on the database. Valid values:\nReadWrite: has read and write per
missions on the database.\nReadOnly: has the read-only permission on the database.\nDMLOnly: runs only data manipulation langua
ge (DML) statements.\nDDLOnly: runs only data definition language (DDL) statements.\nDefault value: ReadWrite.",
      "AllowedValues": [
        "ReadWrite",
        "ReadOnly",
        "DMLOnly",
        "DDLOnly"
      ]
    },
    "DBName": {
      "AllowedPattern": "^[a-z0-9][-_a-z0-9]{0,63}(? <![-_]$)$",
      "Type": "String",
      "Description": "The name of the database to be created. The name must comply with the following rules:\nIt must start wit
h a lowercase letter and consist of lowercase letters, digits, hyphens\n(-), and underscores (_).\nIt must end with a letter or
a digit. It can be up to 64 characters in length."
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DBInstance:
    Type: ALIYUN::POLARDB::DBInstance
    Properties:
      DBClusterId:
        Ref: DBClusterId
      CharacterSetName:
        Ref: CharacterSetName
      DBDescription:
        Ref: DBDescription
      AccountName:
        Ref: AccountName
      AccountPrivilege:
        Ref: AccountPrivilege
      DBName:
        Ref: DBName
Parameters:
  DBClusterId:
    Type: String
    Description: The ID of the ApsaraDB for POLARDB cluster for which a database is
      to be created.
  CharacterSetName:
    Type: String
    Description: The character set of the database. For more information, see Character
      sets.
  DBDescription:
    MinLength: 2
    Type: String
    Description: |-
      The description of the database. Valid values:
      It cannot start with http:// or https://.
      It must be 2 to 256 characters in length.
    MaxLength: 256
  AccountName:
    Type: String
    Description: The name of the database account to be used.
  AccountPrivilege:
    Default: ReadWrite
    Type: String
    Description: |-
      The permissions of the database account on the database. Valid values:
      ReadWrite: has read and write permissions on the database.
      ReadOnly: has the read-only permission on the database.
      DMLOnly: runs only data manipulation language (DML) statements.
      DDLOnly: runs only data definition language (DDL) statements.
      Default value: ReadWrite.
    AllowedValues:
    - ReadWrite
    - ReadOnly
    - DMLOnly
    - DDLOnly
  DBName:
    AllowedPattern: "^[a-z0-9][-_a-z0-9]{0,63}(? <![-_]$)$"
    Type: String
    Description: |-
      The name of the database to be created. The name must comply with the following rules:
      It must start with a lowercase letter and consist of lowercase letters, digits, hyphens
      (-), and underscores (_).
      It must end with a letter or a digit. It can be up to 64 characters in length.
```

53.8. ALIYUN::POLARDB::DBNodes

ALIYUN::POLARDB::DBNodes is used to add nodes to an ApsaraDB for POLARDB cluster.

Syntax

```
{
  "Type": "ALIYUN::POLARDB::DBNodes",
  "Properties": {
    "DBClusterId": String,
    "Amount": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBClusterId	String	Yes	No	The ID of the cluster.	None.
Amount	Integer	Yes	Yes	The number of nodes to be added to the cluster.	None.

Response parameters

Fn::GetAtt

- DBNodeIds: the IDs of the nodes added to the cluster.
- OrderIds: the order IDs of added cluster nodes.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DBNodes": {
      "Type": "ALIYUN::POLARDB::DBNodes",
      "Properties": {
        "DBClusterId": {
          "Ref": "DBClusterId"
        },
        "Amount": {
          "Ref": "Amount"
        }
      }
    }
  },
  "Parameters": {
    "DBClusterId": {
      "Type": "String",
      "Description": "The ID of the ApsaraDB for POLARDB cluster to be added nodes to."
    },
    "Amount": {
      "Type": "Number",
      "Description": "Number of nodes to be added to cluster.",
      "MaxValue": 16,
      "MinValue": 1
    }
  },
  "Outputs": {
    "DBNodeIds ":{
      "Description": "The ID list of added cluster nodes.",
      "Value": {
        "Fn::GetAtt": [
          "DBNodes",
          "DBNodeIds"
        ]
      }
    },
    "OrderIds": {
      "Description": "The order ID list of added cluster nodes.",
      "Value": {
        "Fn::GetAtt": [
          "DBNodes",
          "OrderIds"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  DBNodes:
    Type: ALIYUN::POLARDB::DBNodes
    Properties:
      DBClusterId:
        Ref: DBClusterId
      Amount:
        Ref: Amount
Parameters:
  DBClusterId:
    Type: String
    Description: The ID of the ApsaraDB for POLARDB cluster to be added nodes to.
  Amount:
    Type: Number
    Description: Number of nodes to be added to cluster.
    MaxValue: 16
    MinValue: 1
Outputs:
  DBNodeIds:
    Description: The ID list of added cluster nodes.
    Value:
      Fn::GetAtt:
      - DBNodes
      - DBNodeIds
  OrderIds:
    Description: The order ID list of added cluster nodes.
    Value:
      Fn::GetAtt:
      - DBNodes
      - OrderIds
```

54.PrivateLink

54.1. ALIYUN::PrivateLink::VpcEndpoint

ALIYUN::PrivateLink::VpcEndpoint is used to create an endpoint.

Syntax

```
{
  "Type": "ALIYUN::PrivateLink::VpcEndpoint",
  "Properties": {
    "VpcId": String,
    "EndpointName": String,
    "ServiceName": String,
    "Zone": List,
    "SecurityGroupId": List,
    "EndpointDescription": String,
    "ServiceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC) to which the endpoint belongs.	None
EndpointName	String	No	Yes	The name of the endpoint.	The name must be 2 to 128 characters in length and must start with a letter. The name can contain letters, digits, hyphens (-), and underscores (_).
ServiceName	String	No	No	The name of the endpoint service that is associated with the endpoint.	None
Zone	List	No	Yes	The ID of the zone.	You can specify up to 10 zones. For more information, see Zone properties.
SecurityGroupId	List	Yes	Yes	The list of one or more security groups that are associated with the elastic network interfaces (ENIs) for the endpoint. Security groups can be used to control data communication between the VPC and the ENIs.	The endpoint can be associated with up to 10 security groups.
EndpointDescription	String	No	Yes	The description of the endpoint.	The description must be 2 to 256 characters in length and cannot start with `http://` or `https://`.
ServiceId	String	No	No	The ID of the endpoint service that is associated with the endpoint.	None

Zone syntax

```
"Zone": [
  {
    "ZoneId": String,
    "VSwitchId": String
  }
]
```

Zone properties

Property	Type	Required	Editable	Description	Constraint
ZoneId	String	Yes	No	The ID of the zone to which the endpoint service belongs.	None
VSwitchId	String	Yes	No	The ID of the vSwitch for which you want to create an ENI.	None

Return values

Fn::GetAtt

- EndpointDomain: the domain name of the endpoint.
- Bandwidth: the bandwidth of the endpoint.
- EndpointId: the ID of the endpoint.
- EndpointName: the name of the endpoint.
- VpcId: the VPC ID of the endpoint.
- ServiceName: the name of the endpoint service that is associated with the endpoint.
- ServiceId: the ID of the endpoint service that is associated with the endpoint.
- ZoneDomains: the domain names of the zone.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "MasterZoneId": {
      "Type": "String",
      "Description": "The master zone id to create load balancer instance.",
      "AssociationProperty": "ALIYUN::ECS::Instance::ZoneId"
    },
    "SlaveZoneId": {
      "Type": "String",
      "Description": "The slave zone id to create load balancer instance.",
      "AssociationProperty": "ALIYUN::ECS::Instance::ZoneId"
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create load balancer instance. For VPC network only.",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The VSwitch id to create load balancer instance. For VPC network only.",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "VpcId": "VpcId",
        "ZoneId": "MasterZoneId"
      }
    },
    "SecurityGroupId": {
      "Type": "CommaDelimitedList",
      "Description": "The security group associated with the endpoint network interface. The security group can control the dat
a communication from the VPC to the endpoint network interface.",
      "MinLength": 1,
```

```
      "MaxLength": 10
    },
    "LoadBalancerSpec": {
      "Type": "String",
      "Description": "The specification of the Server Load Balancer instance. Allowed value: slb.s1.small|slb.s2.small|slb.s2.m
edium|slb.s3.small|slb.s3.medium|slb.s3.large|slb.s3.xlarge|slb.s3.xxlarge. Default value: slb.s1.small. The supported performa
nce specification in each region is different, two specifications are supported in the US East 1 region. If the region does not
support the performance-guaranteed instances, the value will not take effect.",
      "Default": "slb.s1.small"
    },
    "LoadBalancerName": {
      "Type": "String",
      "Description": "Name of created load balancer. Length is limited to 1-80 characters, allowed to contain letters, numbers,
'-, /, _,.' When not specified, a default name will be assigned.",
      "Default": "mytest"
    },
    "User": {
      "Type": "Json",
      "Description": "Account IDs to the whitelist of an endpoint service.",
      "MinLength": 1,
      "MaxLength": 20,
      "Default": null
    },
    "ServiceDescription": {
      "Type": "String",
      "Description": "The description for the endpoint service.",
      "MinLength": 2,
      "MaxLength": 256,
      "Default": "test service endpoint"
    },
    "ConnectBandwidth": {
      "Type": "Number",
      "Description": "The default maximum bandwidth of the endpoint connection. Valid values: 100 to 1024. Unit: Mbit/s.",
      "MinValue": 100,
      "MaxValue": 1024,
      "Default": 100
    },
    "AutoAcceptEnabled": {
      "Type": "Boolean",
      "Description": "Specifies whether to automatically accept endpoint connection requests. Valid values:\ntrue: automaticall
y accepts endpoint connection requests.\nfalse: does not automatically accept endpoint connection requests.",
      "AllowedValues": [
        true,
        false
      ],
      "Default": true
    },
    "EndpointName": {
      "Type": "String",
      "Description": "The name of the endpoint.\nThe name must be 2 to 128 characters in length and can contain digits, undersc
ores\n(_), and hyphens (-). The name must start with a letter.",
      "MinLength": 2,
      "MaxLength": 128,
      "Default": "mytest"
    }
  },
  "Resources": {
    "LoadBalancer": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "SupportPrivateLink": true,
        "PayType": "PayOnDemand",
        "VpcId": {
          "Ref": "VpcId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "LoadBalancerSpec": {
          "Ref": "LoadBalancerSpec"
        },
        "LoadBalancerName": {
          "Ref": "LoadBalancerName"
        },
```

```
        "AddressType": "intranet",
        "MasterZoneId": {
          "Ref": "MasterZoneId"
        },
        "SlaveZoneId": {
          "Ref": "SlaveZoneId"
        }
      }
    },
    "VpcEndpointService": {
      "DependsOn": "LoadBalancer",
      "Type": "ALIYUN::PrivateLink::VpcEndpointService",
      "Properties": {
        "User": {
          "Ref": "User"
        },
        "ServiceDescription": {
          "Ref": "ServiceDescription"
        },
        "Resource": [
          {
            "ZoneId": {
              "Ref": "MasterZoneId"
            },
            "ResourceId": {
              "Ref": "LoadBalancer"
            },
            "ResourceType": "slb"
          }
        ],
        "ConnectBandwidth": {
          "Ref": "ConnectBandwidth"
        },
        "AutoAcceptEnabled": {
          "Ref": "AutoAcceptEnabled"
        }
      }
    },
    "VpcEndpoint": {
      "DependsOn": "VpcEndpointService",
      "Type": "ALIYUN::PrivateLink::VpcEndpoint",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        },
        "EndpointName": {
          "Ref": "EndpointName"
        },
        "Zone": [
          {
            "ZoneId": {
              "Ref": "MasterZoneId"
            },
            "VSwitchId": {
              "Ref": "VSwitchId"
            }
          }
        ],
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "ServiceId": {
          "Ref": "VpcEndpointService"
        }
      }
    }
  },
  "Outputs": {
    "ServiceName": {
      "Description": "The name of the endpoint service.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointService",
          "ServiceName"
```

```
        ]
      }
    },
    "ServiceDomain": {
      "Description": "The domain name of the endpoint service.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointService",
          "ServiceDomain"
        ]
      }
    },
    "ServiceId": {
      "Description": "The ID of the endpoint service.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointService",
          "ServiceId"
        ]
      }
    },
    "EndpointDomain": {
      "Description": "The domain name of the endpoint.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpoint",
          "EndpointDomain"
        ]
      }
    },
    "Bandwidth": {
      "Description": "The bandwidth of the endpoint.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpoint",
          "Bandwidth"
        ]
      }
    },
    "EndpointId": {
      "Description": "The ID of the endpoint.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpoint",
          "EndpointId"
        ]
      }
    }
  }
}
```

54.2. ALIYUN::PrivateLink::VpcEndpointService

ALIYUN::PrivateLink::VpcEndpointService is used to create an endpoint service.

Syntax

```
{
  "Type": "ALIYUN::PrivateLink::VpcEndpointService",
  "Properties": {
    "User": List,
    "ServiceDescription": String,
    "Resource": List,
    "ConnectBandwidth": Integer,
    "AutoAcceptEnabled": Boolean,
    "Payer": String,
    "ZoneAffinityEnabled": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
User	List	No	Yes	The Alibaba Cloud accounts in the whitelist of the endpoint service.	You can add up to 20 Alibaba Cloud accounts to the whitelist.
ServiceDescription	String	No	Yes	The description of the endpoint service.	The description must be 2 to 256 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The description must start with a letter.
Resource	List	No	Yes	The list of one or more service resources that you want to add to the endpoint service.	You can add up to 20 service resources to the endpoint service. For more information, see Resource properties.
ConnectBandwidth	Integer	No	Yes	The default maximum bandwidth.	Valid values: 100 to 1024. Unit: Mbit/s.
AutoAcceptEnabled	Boolean	No	Yes	Specifies whether to automatically accept endpoint connection requests.	Default value: false. Valid values: • true: automatically accepts endpoint connection requests. • false: does not automatically accept endpoint connection requests.
Payer	String	No	No	The payer.	Valid values: • Endpoint: the service consumer • EndpointService: the service provider
ZoneAffinityEnabled	Boolean	No	Yes	Specifies whether to resolve domain names to IP addresses in the nearest zone.	Default value: false. Valid values: • true: resolves domain names to IP addresses in the nearest zone. • false: does not resolve domain names to IP addresses in the nearest zone.

Resource syntax

```
"Resource": [
  {
    "ZoneId": String,
    "ResourceId": String,
    "ResourceType": String
  }
]
```

Resource properties

Property	Type	Required	Editable	Description	Constraint
ZoneId	String	Yes	No	The zone to which the service resource belongs.	None
ResourceId	String	Yes	No	The list of one or more service resources that are added to the endpoint service.	None

Property	Type	Required	Editable	Description	Constraint
ResourceType	String	Yes	No	The type of the service resource that you want to add to the endpoint service.	Set the value to slb, which indicates the VPC-type Server Load Balancer (SLB) instances that support PrivateLink. **Note** Only SLB instances that support PrivateLink can serve as service resources for endpoint services.

Return values

Fn::GetAtt

- ServiceName: the name of the endpoint service.
- ServiceDomain: the domain name of the endpoint service.
- ServiceId: the ID of the endpoint service.
- ServiceDescription: the description of the endpoint service.
- MinBandwidth: the minimum bandwidth of the endpoint connection.
- MaxBandwidth: the maximum bandwidth of the endpoint connection.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "MasterZoneId": {
      "Type": "String",
      "Description": "The master zone id to create load balancer instance.",
      "AssociationProperty": "ALIYUN::ECS::Instance::ZoneId"
    },
    "SlaveZoneId": {
      "Type": "String",
      "Description": "The slave zone id to create load balancer instance.",
      "AssociationProperty": "ALIYUN::ECS::Instance::ZoneId"
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create load balancer instance. For VPC network only.",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The VSwitch id to create load balancer instance. For VPC network only.",
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "VpcId": "VpcId",
        "ZoneId": "MasterZoneId"
      }
    },
    "SecurityGroupId": {
      "Type": "CommaDelimitedList",
      "Description": "The security group associated with the endpoint network interface. The security group can control the dat
a communication from the VPC to the endpoint network interface.",
      "MinLength": 1,
      "MaxLength": 10
    },
    "LoadBalancerSpec": {
      "Type": "String",
      "Description": "The specification of the Server Load Balancer instance. Allowed value: slb.s1.small|slb.s2.small|slb.s2.m
edium|slb.s3.small|slb.s3.medium|slb.s3.large|slb.s3.xlarge|slb.s3.xxlarge. Default value: slb.s1.small. The supported performa
nce specification in each region is different, two specifications are supported in the US East 1 region. If the region does not
support the performance-guaranteed instances, the value will not take effect.",
      "Default": "slb.s1.small"
    },
    "LoadBalancerName": {
      "Type": "String",
      "Description": "Name of created load balancer. Length is limited to 1-80 characters, allowed to contain letters, numbers,
'-, /, .' When not specified, a default name will be assigned.",
```

```
  ", ", _}. When not specified, a default name will be assigned. ",
      "Default": "mytest"
    },
    "User": {
      "Type": "Json",
      "Description": "Account IDs to the whitelist of an endpoint service.",
      "MinLength": 1,
      "MaxLength": 20,
      "Default": null
    },
    "ServiceDescription": {
      "Type": "String",
      "Description": "The description for the endpoint service.",
      "MinLength": 2,
      "MaxLength": 256,
      "Default": "test service endpoint"
    },
    "ConnectBandwidth": {
      "Type": "Number",
      "Description": "The default maximum bandwidth of the endpoint connection. Valid values: 100 to 1024. Unit: Mbit/s.",
      "MinValue": 100,
      "MaxValue": 1024,
      "Default": 100
    },
    "AutoAcceptEnabled": {
      "Type": "Boolean",
      "Description": "Specifies whether to automatically accept endpoint connection requests. Valid values:\ntrue: automaticall
y accepts endpoint connection requests.\nfalse: does not automatically accept endpoint connection requests.",
      "AllowedValues": [
        true,
        false
      ],
      "Default": true
    },
    "EndpointName": {
      "Type": "String",
      "Description": "The name of the endpoint.\nThe name must be 2 to 128 characters in length and can contain digits, undersc
ores\n(_), and hyphens (-). The name must start with a letter.",
      "MinLength": 2,
      "MaxLength": 128,
      "Default": "mytest"
    }
  },
  "Resources": {
    "LoadBalancer": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "SupportPrivateLink": true,
        "PayType": "PayOnDemand",
        "VpcId": {
          "Ref": "VpcId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "LoadBalancerSpec": {
          "Ref": "LoadBalancerSpec"
        },
        "LoadBalancerName": {
          "Ref": "LoadBalancerName"
        },
        "AddressType": "intranet",
        "MasterZoneId": {
          "Ref": "MasterZoneId"
        },
        "SlaveZoneId": {
          "Ref": "SlaveZoneId"
        }
      }
    },
    "VpcEndpointService": {
      "DependsOn": "LoadBalancer",
      "Type": "ALIYUN::PrivateLink::VpcEndpointService",
      "Properties": {
        "User": {
```

```
          "Ref": "User"
        },
        "ServiceDescription": {
          "Ref": "ServiceDescription"
        },
        "Resource": [
          {
            "ZoneId": {
              "Ref": "MasterZoneId"
            },
            "ResourceId": {
              "Ref": "LoadBalancer"
            },
            "ResourceType": "slb"
          }
        ],
        "ConnectBandwidth": {
          "Ref": "ConnectBandwidth"
        },
        "AutoAcceptEnabled": {
          "Ref": "AutoAcceptEnabled"
        }
      }
    }
  },
  "Outputs": {
    "ServiceName": {
      "Description": "The name of the endpoint service.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointService",
          "ServiceName"
        ]
      }
    },
    "ServiceDomain": {
      "Description": "The domain name of the endpoint service.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointService",
          "ServiceDomain"
        ]
      }
    },
    "ServiceId": {
      "Description": "The ID of the endpoint service.",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointService",
          "ServiceId"
        ]
      }
    }
  }
}
```

54.3. ALIYUN::PrivateLink::VpcEndpointServiceAttachment

ALIYUN::PrivateLink::VpcEndpointServiceAttachment is used to add a service resource to an endpoint service.

Syntax

```
{
  "Type": "ALIYUN::PrivateLink::VpcEndpointServiceAttachment",
  "Properties": {
    "ResourceId": String,
    "ResourceType": String,
    "ServiceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceId	String	Yes	No	The ID of the service resource.	None
ResourceType	String	Yes	No	The type of the service resource.	Set the value to slb. Only Server Load Balancer (SLB) instances that support PrivateLink and are deployed in virtual private clouds (VPCs) can serve as service resources.
ServiceId	String	Yes	No	The ID of the endpoint service to which you want to add the service resource.	None

Response parameters

Fn::GetAtt

- ResourceId: the ID of the service resource.
- ServiceId: the ID of the endpoint service that is associated with the endpoint.
- ResourceType: the type of the service resource.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ResourceId": {
      "Type": "String",
      "Description": "The resource id. "
    },
    "ResourceType": {
      "Type": "String",
      "Description": "The resource type. "
    },
    "ServiceId": {
      "Type": "String",
      "Description": "The endpoint service that is associated with the endpoint. "
    }
  },
  "Resources": {
    "VpcEndpointServiceAttachment": {
      "Type": "ALIYUN::PrivateLink::VpcEndpointServiceAttachment",
      "Properties": {
        "ResourceId": {
          "Ref": "ResourceId"
        },
        "ResourceType": {
          "Ref": "ResourceType"
        },
        "ServiceId": {
          "Ref": "ServiceId"
        }
      }
    }
  },
  "Outputs": {
    "ResourceId": {
      "Description": "The resource id. ",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointServiceAttachment",
          "ResourceId"
        ]
      }
    },
    "ResourceType": {
      "Description": "The resource type. ",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointServiceAttachment",
          "ResourceType"
        ]
      }
    },
    "ServiceId": {
      "Description": "The endpoint service that is associated with the endpoint. ",
      "Value": {
        "Fn::GetAtt": [
          "VpcEndpointServiceAttachment",
          "ServiceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ResourceId:
    Description: 'The resource id. '
    Type: String
  ResourceType:
    Description: 'The resource type. '
    Type: String
  ServiceId:
    Description: 'The endpoint service that is associated with the endpoint. '
    Type: String
Resources:
  VpcEndpointServiceAttachment:
    Properties:
      ResourceId:
        Ref: ResourceId
      ResourceType:
        Ref: ResourceType
      ServiceId:
        Ref: ServiceId
    Type: ALIYUN::PrivateLink::VpcEndpointServiceAttachment
Outputs:
  ResourceId:
    Description: 'The resource id. '
    Value:
      Fn::GetAtt:
      - VpcEndpointServiceAttachment
      - ResourceId
  ResourceType:
    Description: 'The resource type. '
    Value:
      Fn::GetAtt:
      - VpcEndpointServiceAttachment
      - ResourceType
  ServiceId:
    Description: 'The endpoint service that is associated with the endpoint. '
    Value:
      Fn::GetAtt:
      - VpcEndpointServiceAttachment
      - ServiceId
```

55.PVTZ

55.1. ALIYUN::PVTZ::UserVpcAuthorization

ALIYUN::PVTZ::UserVpcAuthorization is used to associate Virtual Private Clouds (VPCs) across accounts.

Syntax

```
{
  "Type": "ALIYUN::PVTZ::UserVpcAuthorization",
  "Properties": {
    "AuthCode": String,
    "AuthChannel": String,
    "AuthorizedUserId": String,
    "AuthType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AuthCode	String	No	No	The verification code.	AuthCode is required if AuthChannel is set to AUTH_CODE or left empty.
AuthChannel	String	No	No	The authorization channel.	Default value: AUTH_CODE. Valid values: • AUTH_CODE: An authorization code can be used to associate VPCs across accounts. The system grants permissions to associate VPCs across accounts by checking whether the authorization code specified by AuthCode is correct. • RESOURCE_DIRECTORY: A resource directory can be used to associate VPCs across accounts. The system grants permissions to associate VPCs across accounts by checking whether the account that is specified by AuthorizedUserId and the current account are in the same resource directory.
AuthorizedUserId	String	Yes	No	The ID of the Alibaba Cloud account to which you want to grant permissions.	None
AuthType	String	No	No	The authorization type.	Set the value to NORMAL, which means that only regular permissions are granted.

Response parameters

Fn::GetAtt

- AuthorizedUserId: the ID of the Alibaba Cloud account to which you want to grant permissions.
- AuthType: the authorization type.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AuthCode": {
      "Type": "String",
      "Description": "Verification code, if AuthChannel takes \"AUTH_CODE\" or is empty, it is mandatory.",
      "Default": "12****"
    },
    "AuthChannel": {
      "Type": "String",
      "Description": "Authorization channel. Valid values:\nAUTH_CODE: Verification code authorization, to verify whether the v
erification code passed in by AuthCode is correct.\nRESOURCE_DIRECTORY: Resource directory authorization, verify whether the Au
thorizedUserId and the current account have resource directory credit. When it is empty, it is the same as AUTH_CODE, that is,
verification code authorization.",
      "Default": "AUTH_CODE"
    },
    "AuthorizedUserId": {
      "Type": "String",
      "Description": "The account ID of the user who authorizes the resource.",
      "Default": "11122****"
    },
    "AuthType": {
      "Type": "String",
      "Description": "Authorization type.",
      "Default": "NORMAL"
    }
  },
  "Resources": {
    "UserVpcAuthorization": {
      "Type": "ALIYUN::PVTZ::UserVpcAuthorization",
      "Properties": {
        "AuthCode": {
          "Ref": "AuthCode"
        },
        "AuthChannel": {
          "Ref": "AuthChannel"
        },
        "AuthorizedUserId": {
          "Ref": "AuthorizedUserId"
        },
        "AuthType": {
          "Ref": "AuthType"
        }
      }
    }
  },
  "Outputs": {
    "AuthorizedUserId": {
      "Description": "The account ID of the user who authorizes the resource.",
      "Value": {
        "Fn::GetAtt": [
          "UserVpcAuthorization",
          "AuthorizedUserId"
        ]
      }
    },
    "AuthType": {
      "Description": "Authorization type.",
      "Value": {
        "Fn::GetAtt": [
          "UserVpcAuthorization",
          "AuthType"
        ]
      }
    }
  }
}
```

55.2. ALIYUN::PVTZ::ZoneRecord

ALIYUN::PVTZ::ZoneRecord is used to add a Domain Name Service (DNS) record to a private zone.

Syntax

```
{
  "Type": "ALIYUN::PVTZ::ZoneRecord",
  "Properties": {
    "Status": String,
    "Rr": String,
    "Value": String,
    "ZoneId": String,
    "Priority": Integer,
    "Ttl": Integer,
    "Type": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Status	String	Yes	Yes	The status of DNS resolution.	Valid values: • ENABLE: DNS resolution is enabled. • DISABLE: DNS resolution is disabled.
Rr	String	Yes	Yes	The host record.	For example, to resolve `@.example.com`, you must set Rr to an at sign (@) instead of leaving it blank.
Value	String	Yes	Yes	The record value.	None
ZoneId	String	Yes	No	The ID of the private zone.	None
Priority	Integer	No	Yes	The priority of the MX-type DNS record.	Valid values: 1 to 99. Default value: 10.
Ttl	Integer	No	Yes	The time-to-live (TTL) of the record.	Default value: 60.
Type	String	Yes	Yes	The type of the DNS record.	Valid values: • A • CNAME • TXT • MX • PTR

Response parameters

Fn::GetAtt

- RecordId: the ID of the DNS record.
- Record: the content of the DNS record.
- ZoneId: the ID of the private zone.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Status": {
      "Type": "String",
      "Description": "Allowed values: [ENABLE, DISABLE]",
      "AllowedValues": [
        "DISABLE",
        "ENABLE"
      ],
      "Default": "ENABLE"
    }
```

```
    },
    "Rr": {
      "Type": "String",
      "Description": "Host record, if you want to resolve @.example.com, the host record should fill in \"@\" instead of empty"
    },
    "Type": {
      "Type": "String",
      "Description": "Analyze record type, currently only supports A, AAAA, CNAME, TXT, MX, PTR, SRV",
      "AllowedValues": [
        "A",
        "AAA",
        "CNAME",
        "TXT",
        "MX",
        "PTR",
        "SRV"
      ]
    },
    "ZoneId": {
      "Type": "String",
      "Description": "Zone Id"
    },
    "Priority": {
      "Type": "Number",
      "Description": "MX record priority, value range [1,99]. Default to 10.",
      "MinValue": 1,
      "MaxValue": 99,
      "Default": 10
    },
    "Value": {
      "Type": "String",
      "Description": "Record value"
    },
    "Ttl": {
      "Type": "Number",
      "Description": "Survival time, default is 60",
      "Default": 60
    }
  },
  "Resources": {
    "ZoneRecord": {
      "Type": "ALIYUN::PVTZ::ZoneRecord",
      "Properties": {
        "Status": {
          "Ref": "Status"
        },
        "Rr": {
          "Ref": "Rr"
        },
        "Type": {
          "Ref": "Type"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "Priority": {
          "Ref": "Priority"
        },
        "Value": {
          "Ref": "Value"
        },
        "Ttl": {
          "Ref": "Ttl"
        }
      }
    }
  },
  "Outputs": {
    "ZoneId": {
      "Description": "Zone ID.",
      "Value": {
        "Fn::GetAtt": [
          "ZoneRecord",
          "ZoneId"
        ]
```

```
      }
    },
    "Record": {
      "Description": "Record data.",
      "Value": {
        "Fn::GetAtt": [
          "ZoneRecord",
          "Record"
        ]
      }
    },
    "RecordId": {
      "Description": "Parsing record Id",
      "Value": {
        "Fn::GetAtt": [
          "ZoneRecord",
          "RecordId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Priority:
    Default: 10
    Description: MX record priority, value range [1,99]. Default to 10.
    MaxValue: 99
    MinValue: 1
    Type: Number
  Rr:
    Description: Host record, if you want to resolve @.example.com, the host record
      should fill in "@" instead of empty
    Type: String
  Status:
    AllowedValues:
    - DISABLE
    - ENABLE
    Default: ENABLE
    Description: 'Allowed values: [ENABLE, DISABLE]'
    Type: String
  Ttl:
    Default: 60
    Description: Survival time, default is 60
    Type: Number
  Type:
    AllowedValues:
    - A
    - AAA
    - CNAME
    - TXT
    - MX
    - PTR
    - SRV
    Description: Analyze record type, currently only supports A, AAAA, CNAME, TXT,
      MX, PTR, SRV
    Type: String
  Value:
    Description: Record value
    Type: String
  ZoneId:
    Description: Zone Id
    Type: String
Resources:
  ZoneRecord:
    Properties:
      Priority:
        Ref: Priority
      Rr:
        Ref: Rr
```

```
      Status:
        Ref: Status
      Ttl:
        Ref: Ttl
      Type:
        Ref: Type
      Value:
        Ref: Value
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::PVTZ::ZoneRecord
Outputs:
  Record:
    Description: Record data.
    Value:
      Fn::GetAtt:
      - ZoneRecord
      - Record
  RecordId:
    Description: Parsing record Id
    Value:
      Fn::GetAtt:
      - ZoneRecord
      - RecordId
  ZoneId:
    Description: Zone ID.
    Value:
      Fn::GetAtt:
      - ZoneRecord
      - ZoneId
```

For more examples, see PVTZ.json and PVTZ.yml. In the examples, the ALIYUN::PVTZ::Zone, ALIYUN::PVTZ::ZoneRecord, and ALIYUN::PVTZ::ZoneVpcBinder resource types are involved.

55.3. ALIYUN::PVTZ::ZoneVpcBinder

ALIYUN::PVTZ::ZoneVpcBinder is used to bind a private zone to or unbind a private zone from a virtual private cloud (VPC).

Syntax

```
{
  "Type": "ALIYUN::PVTZ::ZoneVpcBinder",
  "Properties": {
    "Vpcs": List,
    "ZoneId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Vpcs	List	Yes	Yes	The list of VPCs.	You can specify up to 10 VPCs. For more information, see Vpcs properties.
ZoneId	String	Yes	No	The ID of the private zone.	None

Vpcs syntax

```
"Vpcs": [
  {
    "VpcId": String,
    "RegionId": String
  }
]
```

Vpcs properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the VPC.	None
RegionId	String	Yes	No	The region ID of the VPC.	None

Response parameters

Fn::GetAtt

- ZoneId: the ID of the private zone.
- Vpcs: the VPC to which the private zone is bound.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Vpcs": {
      "Type": "Json",
      "Description": "",
      "MinLength": 0,
      "MaxLength": 10
    },
    "ZoneId": {
      "Type": "String",
      "Description": "Zone Id"
    }
  },
  "Resources": {
    "ZoneVpcBinder": {
      "Type": "ALIYUN::PVTZ::ZoneVpcBinder",
      "Properties": {
        "Vpcs": {
          "Ref": "Vpcs"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        }
      }
    }
  },
  "Outputs": {
    "Vpcs": {
      "Description": "Vpc list",
      "Value": {
        "Fn::GetAtt": [
          "ZoneVpcBinder",
          "Vpcs"
        ]
      }
    },
    "ZoneId": {
      "Description": "Zone Id",
      "Value": {
        "Fn::GetAtt": [
          "ZoneVpcBinder",
          "ZoneId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Vpcs:
    Description: ''
    MaxLength: 10
    MinLength: 0
    Type: Json
  ZoneId:
    Description: Zone Id
    Type: String
Resources:
  ZoneVpcBinder:
    Properties:
      Vpcs:
        Ref: Vpcs
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::PVTZ::ZoneVpcBinder
Outputs:
  Vpcs:
    Description: Vpc list
    Value:
      Fn::GetAtt:
      - ZoneVpcBinder
      - Vpcs
  ZoneId:
    Description: Zone Id
    Value:
      Fn::GetAtt:
      - ZoneVpcBinder
      - ZoneId
```

For more examples, see PVTZ.json and PVTZ.yml. In the examples, the ALIYUN::PVTZ::Zone, ALIYUN::PVTZ::ZoneRecord, and ALIYUN::PVTZ::ZoneVpcBinder resource types are involved.

56.RAM

56.1. ALIYUN::RAM::AccessKey

ALIYUN::RAM::AccessKey is used to obtain the AccessKey pair (AccessKey ID and AccessKey secret) of a specified user and its status.

Syntax

```
{
  "Type": "ALIYUN::RAM::AccessKey ",
  "Properties": {
    "UserName": String
   }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
UserName	String	Yes	No	The name of the user.	None

Response parameters

Fn::GetAtt

- AccessKeyId: the AccessKey ID.
- AccessKeySecret: the AccessKey secret.
- Status: the status of the AccessKey pair. It can be enabled or disabled.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "UserName": {
      "Type": "String",
      "Description": "Specifies the user name, containing up to 64 characters."
    }
  },
  "Resources": {
    "AccessKey": {
      "Type": "ALIYUN::RAM::AccessKey",
      "Properties": {
        "UserName": {
          "Ref": "UserName"
        }
      }
    }
  },
  "Outputs": {
    "Status": {
      "Description": "Status of access key.",
      "Value": {
        "Fn::GetAtt": [
          "AccessKey",
          "Status"
        ]
      }
    },
    "AccessKeyId": {
      "Description": "Id of access key.",
      "Value": {
        "Fn::GetAtt": [
          "AccessKey",
          "AccessKeyId"
        ]
      }
    },
    "AccessKeySecret": {
      "Description": "Secret of access key.",
      "Value": {
        "Fn::GetAtt": [
          "AccessKey",
          "AccessKeySecret"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  UserName:
    Type: String
    Description: 'Specifies the user name, containing up to 64 characters.'
Resources:
  AccessKey:
    Type: 'ALIYUN::RAM::AccessKey'
    Properties:
      UserName:
        Ref: UserName
Outputs:
  Status:
    Description: Status of access key.
    Value:
      'Fn::GetAtt':
        - AccessKey
        - Status
  AccessKeyId:
    Description: Id of access key.
    Value:
      'Fn::GetAtt':
        - AccessKey
        - AccessKeyId
  AccessKeySecret:
    Description: Secret of access key.
    Value:
      'Fn::GetAtt':
        - AccessKey
        - AccessKeySecret
```

56.2. ALIYUN::RAM::AttachPolicyToRole

ALIYUN::RAM::AttachPolicyToRole is used to attach an authorization policy to a specified role.

Syntax

```
{
  "Type": "ALIYUN::RAM::AttachPolicyToRole",
  "Properties": {
    "PolicyName": String,
    "PolicyType": String,
    "RoleName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
PolicyName	String	Yes	No	The name of the authorization policy.	None
PolicyType	String	Yes	No	The type of the authorization policy.	Valid values: `System` and `Custom`.
RoleName	String	Yes	No	The name of the RAM role, such as dev.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AttachPolicyToRole": {
      "Type": "ALIYUN::RAM::AttachPolicyToRole",
      "Properties": {
        "PolicyName": "OSS-Administrator",
        "PolicyType": "Custom",
        "RoleName": "OSSAdminRole"
      }
    }
  }
}
```

56.3. ALIYUN::RAM::AttachPolicyToUser

ALIYUN::RAM::AttachPolicyToUser is used to grant permissions to a specified user.

Syntax

```
{
  "Type": "ALIYUN::RAM::AttachPolicyToUser",
  "Properties": {
    "PolicyType": String,
    "UserName": String,
    "PolicyName": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
PolicyType	String	Yes	No	The authorization policy type.	Valid values: • System • Custom
UserName	String	Yes	No	The user name.	N/A
PolicyName	String	Yes	No	The authorization policy name.	N/A

Error code

Fn::GetAtt

None.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PolicyType": {
      "Type": "String",
      "Description": "Authorization policy type. Value: \"System\" or \"Custom\".",
      "AllowedValues": [
        "System",
        "Custom"
      ]
    },
    "UserName": {
      "Type": "String",
      "Description": "User name.Example: dev."
    },
    "PolicyName": {
      "Type": "String",
      "Description": "Authorization policy name."
    }
  },
  "Resources": {
    "AttachPolicyToUser": {
      "Type": "ALIYUN::RAM::AttachPolicyToUser",
      "Properties": {
        "PolicyType": {
          "Ref": "PolicyType"
        },
        "UserName": {
          "Ref": "UserName"
        },
        "PolicyName": {
          "Ref": "PolicyName"
        }
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PolicyType:
    Type: String
    Description: 'Authorization policy type. Value: "System" or "Custom".'
    AllowedValues:
      -System
      -Custom
  UserName:
    Type: String
    Description: 'User name.Example: dev.'
  PolicyName:
    Type: String
    Description: Authorization policy name.
Resources:
  AttachPolicyToUser:
    Type: 'ALIYUN::RAM::AttachPolicyToUser'
    Properties:
      PolicyType:
        Ref: PolicyType
      UserName:
        Ref: UserName
      PolicyName:
        Ref: PolicyName
```

56.4. ALIYUN::RAM::RamAccountAlias

ALIYUN::RAM::RamAccountAlias is used to create an alias for an Alibaba Cloud account.

Syntax

```
{
  "Type": "ALIYUN::RAM::RamAccountAlias",
  "Properties": {
    "AccountAlias": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AccountAlias	String	Yes	Yes	The alias to be created for the account.	The alias must be 3 to 32 characters in length and can contain lowercase letters, digits, and hyphens (-). It cannot start or end with a hyphen (-), and cannot contain consecutive hyphens (-).

Response parameters

Fn::GetAtt

AccountAlias: the alias of the account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AccountAlias": {
      "Type": "String",
      "Description": "The alias of the Alibaba Cloud account.\nThe alias must be 3 to 32 characters in length, and can contain
lowercase letters,\ndigits, and hyphens (-).\nNote It cannot start or end with a hyphen (-), and cannot contain consecutive hyp
hens (-).",
      "AllowedPattern": "^(?!-)([a-z0-9]+|-(?!-))+(?!-)$",
      "MinLength": 3,
      "MaxLength": 32
    }
  },
  "Resources": {
    "RamAccountAlias": {
      "Type": "ALIYUN::RAM::RamAccountAlias",
      "Properties": {
        "AccountAlias": {
          "Ref": "AccountAlias"
        }
      }
    }
  },
  "Outputs": {
    "AccountAlias": {
      "Description": "The alias of the Alibaba Cloud account.",
      "Value": {
        "Fn::GetAtt": [
          "RamAccountAlias",
          "AccountAlias"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccountAlias:
    AllowedPattern: ^(?!-)([a-z0-9]+|-(?!-))+(?!-)$
    Description: 'The alias of the Alibaba Cloud account.
      The alias must be 3 to 32 characters in length, and can contain lowercase letters,
      digits, and hyphens (-).
      Note It cannot start or end with a hyphen (-), and cannot contain consecutive
      hyphens (-).'
    MaxLength: 32
    MinLength: 3
    Type: String
Resources:
  RamAccountAlias:
    Properties:
      AccountAlias:
        Ref: AccountAlias
    Type: ALIYUN::RAM::RamAccountAlias
Outputs:
  AccountAlias:
    Description: The alias of the Alibaba Cloud account.
    Value:
      Fn::GetAtt:
      - RamAccountAlias
      - AccountAlias
```

56.5. ALIYUN::RAM::Group

ALIYUN::RAM::Group is used to create a RAM user group.

Syntax

```
{
  "Type": "ALIYUN::RAM::Group",
  "Properties": {
    "GroupName": String,
    "Comments": String,
    "Policies": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
GroupName	String	Yes	No	The name of the user group.	The name must be 1 to 64 characters in length and can contain letters, digits, and hyphens (-).
Comments	String	No	No	The description of the user group.	The description must be 1 to 128 characters in length.
Policies	List	No	Yes	The permission policies.	For more information, see Policies properties.

Policies syntax

```
"Policies": [
  {
    "Description": String,
    "PolicyName": String,
    "PolicyDocument": Map
  }
]
```

Policies properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the permission policy.	The description must be 1 to 1,024 characters in length.
PolicyName	String	Yes	No	The name of the permission policy.	The name must be 1 to 128 characters in length and can contain letters, digits, and hyphens (-).
PolicyDocument	Map	Yes	Yes	The content of the permission policy.	The content can be up to 2,048 characters in length. For more information, see PolicyDocument properties

PolicyDocument syntax

```
"PolicyDocument": {
  "Version": String,
  "Statement": List
}
```

PolicyDocument properties

Property	Type	Required	Editable	Description	Constraint
Version	String	No	No	The version of the permission policy.	None
Statement	List	No	No	The rules of the permission policy.	For more information, see Statement properties.

Statement syntax

```
"Statement": [
  {
    "Condition": Map,
    "Action": List,
    "Resource": List,
    "Effect": String
  }
]
```

Statement properties

Property	Type	Required	Editable	Description	Constraint
Condition	Map	No	No	The restrictions that are required for the permission policy to take effect.	None
Action	List	No	No	The operations to which the permission policy is applied.	None
Resource	List	No	No	The resources to which the permission policy is applied.	None
Effect	String	No	No	The permission effect.	Valid values: • Allow: Access is allowed. • Deny: Access is denied.

Response parameters

Fn::GetAtt

GroupName: the name of the RAM user group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "GroupName": {
      "Type": "String",
      "Description": "Specifies the group name, containing up to 64 characters."
    },
    "Policies": {
      "Type": "Json",
      "Description": "Describes what actions are allowed on what resources."
    },
    "Comments": {
      "Type": "String",
      "Description": "Remark information, up to 128 characters or Chinese characters.",
      "MaxLength": 128
    }
  },
  "Resources": {
    "Group": {
      "Type": "ALIYUN::RAM::Group",
      "Properties": {
        "GroupName": {
          "Ref": "GroupName"
        },
        "Policies": {
          "Ref": "Policies"
        },
        "Comments": {
          "Ref": "Comments"
        }
      }
    }
  },
  "Outputs": {
    "GroupName": {
      "Description": "Id of ram group.",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GroupName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  GroupName:
    Type: String
    Description: 'Specifies the group name, containing up to 64 characters.'
  Policies:
    Type: Json
    Description: Describes what actions are allowed on what resources.
  Comments:
    Type: String
    Description: 'Remark information, up to 128 characters or Chinese characters.'
    MaxLength: 128
Resources:
  Group:
    Type: 'ALIYUN::RAM::Group'
    Properties:
      GroupName:
        Ref: GroupName
      Policies:
        Ref: Policies
      Comments:
        Ref: Comments
Outputs:
  GroupName:
    Description: Id of ram group.
    Value:
      'Fn::GetAtt':
        - Group
        - GroupName
```

56.6. ALIYUN::RAM::ManagedPolicy

ALIYUN::RAM::ManagedPolicy is used to create a management policy for RAM users.

Syntax

```
{
  "Type": "ALIYUN::RAM::ManagedPolicy",
  "Properties": {
    "PolicyName": String,
    "Description": String,
    "Roles": List,
    "PolicyDocumentUnchecked": Map,
    "PolicyDocument": Map,
    "Groups": List,
    "Users": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PolicyName	String	Yes	No	The name of the policy.	The name can be up to 128 characters in length.
Description	String	No	No	The description of the policy.	The description can be up to 1,024 characters in length.
PolicyDocument	Map	No	Yes	The details of the policy.	For more information, see PolicyDocument properties.
Users	List	No	No	The users to whom the policy is to be applied.	None

Property	Type	Required	Editable	Description	Constraint
Groups	List	No	No	The user groups to which the policy is to be applied.	None
Roles	List	No	No	The roles to which the policy is to be applied.	None
PolicyDocumentUnchecked	Map	No	Yes	The policy document that describes what actions are allowed on which resources.	If you specify this parameter, the PolicyDocument parameter is ignored.

PolicyDocument syntax

```
"PolicyDocument": {
  "Version": String,
  "Statement": List
}
```

PolicyDocument properties

Property	Type	Required	Editable	Description	Constraint
Version	String	No	No	The version of the policy.	None
Statement	List	No	No	The rules of the policy.	For more information, see Statement properties.

Statement syntax

```
"Statement": [
  {
    "Condition": Map,
    "Action": List,
    "Resource": List,
    "Effect": String
  }
]
```

Statement properties

Property	Type	Required	Editable	Description	Constraint
Condition	Map	No	No	The restrictions that are required for the permission policy to take effect.	None
Action	List	No	No	The operations to which the permission policy is applied.	None
Resource	List	No	No	The resources to which the permission policy is applied.	None
Effect	String	No	No	The permission effect.	Valid values: • Allow: Access is allowed. • Deny: Access is denied.

Response parameters

Fn::GetAtt

PolicyName: the name of the policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Specifies the authorization policy description, containing up to 1024 characters.",
      "MaxLength": 1024
    },
    "Groups": {
      "Type": "CommaDelimitedList",
      "Description": "The names of groups to attach to this policy."
    },
    "PolicyName": {
      "Type": "String",
      "Description": "Specifies the authorization policy name, containing up to 128 characters."
    },
    "PolicyDocumentUnchecked": {
      "Type": "Json",
      "Description": "A policy document that describes what actions are allowed on which resources. If it is specified, PolicyD
ocument will be ignored."
    },
    "PolicyDocument": {
      "Type": "Json",
      "Description": "A policy document that describes what actions are allowed on which resources."
    },
    "Roles": {
      "Type": "CommaDelimitedList",
      "Description": "The names of roles to attach to this policy."
    },
    "Users": {
      "Type": "CommaDelimitedList",
      "Description": "The names of users to attach to this policy."
    }
  },
  "Resources": {
    "Policy": {
      "Type": "ALIYUN::RAM::ManagedPolicy",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "Groups": {
          "Ref": "Groups"
        },
        "PolicyName": {
          "Ref": "PolicyName"
        },
        "PolicyDocumentUnchecked": {
          "Ref": "PolicyDocumentUnchecked"
        },
        "PolicyDocument": {
          "Ref": "PolicyDocument"
        },
        "Roles": {
          "Ref": "Roles"
        },
        "Users": {
          "Ref": "Users"
        }
      }
    }
  },
  "Outputs": {
    "PolicyName": {
      "Description": "When the logical ID of this resource is provided to the Ref intrinsic function, Ref returns the ARN.",
      "Value": {
        "Fn::GetAtt": [
          "Policy",
          "PolicyName"
```

```
            "PolicyName"
          ]
        }
      }
    }
  }
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: >-
      Specifies the authorization policy description, containing up to 1024
      characters.
    MaxLength: 1024
  Groups:
    Type: CommaDelimitedList
    Description: The names of groups to attach to this policy.
  PolicyName:
    Type: String
    Description: 'Specifies the authorization policy name, containing up to 128 characters.'
  PolicyDocumentUnchecked:
    Type: Json
    Description: >-
      A policy document that describes what actions are allowed on which
      resources. If it is specified, PolicyDocument will be ignored.
  PolicyDocument:
    Type: Json
    Description: >-
      A policy document that describes what actions are allowed on which
      resources.
  Roles:
    Type: CommaDelimitedList
    Description: The names of roles to attach to this policy.
  Users:
    Type: CommaDelimitedList
    Description: The names of users to attach to this policy.
Resources:
  Policy:
    Type: 'ALIYUN::RAM::ManagedPolicy'
    Properties:
      Description:
        Ref: Description
      Groups:
        Ref: Groups
      PolicyName:
        Ref: PolicyName
      PolicyDocumentUnchecked:
        Ref: PolicyDocumentUnchecked
      PolicyDocument:
        Ref: PolicyDocument
      Roles:
        Ref: Roles
      Users:
        Ref: Users
Outputs:
  PolicyName:
    Description: >-
      When the logical ID of this resource is provided to the Ref intrinsic
      function, Ref returns the ARN.
    Value:
      'Fn::GetAtt':
        - Policy
        - PolicyName
```

56.7. ALIYUN::RAM::Role

ALIYUN::RAM::Role is used to create a RAM role.

Syntax

```
{
  "Type": "ALIYUN::RAM::Role",
  "Properties": {
    "RoleName": String,
    "Description": String,
    "AssumeRolePolicyDocument": Map,
    "MaxSessionDuration": Integer,
    "Policies": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RoleName	String	Yes	No	The name of the RAM role.	The name can be up to 64 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-).
Description	String	No	No	The description of the RAM role.	The description can be up to 1,024 characters in length.
AssumeRolePolicyDocument	Map	Yes	Yes	The identity that can assume the RAM role.	For more information, see AssumeRolePolicyDocument properties.
MaxSessionDuration	Integer	No	Yes	The maximum session duration of the RAM role.	Unit: seconds. Valid values: 3600 to 43200. Default value: 3600.
Policies	List	No	Yes	The policies that are applied to the RAM role.	For more information, see Policies properties.

AssumeRolePolicyDocument syntax

```
"AssumeRolePolicyDocument": {
  "Version": String,
  "Statement": List
}
```

AssumeRolePolicyDocument properties

Property	Type	Required	Editable	Description	Constraint
Version	String	Yes	No	The version of the policy.	None
Statement	List	Yes	No	The rules of the policy.	None

Statement syntax

```
"Statement": [
  {
    "Condition": Map,
    "Action": String,
    "Effect": String,
    "Principal": Map
  }
]
```

Statement properties

Property	Type	Required	Editable	Description	Constraint
Condition	Map	No	No	The restrictions.	None
Action	String	No	No	The specific operations to which the policy is applied.	None
Effect	String	No	No	The permission effect.	Valid values: • Allow: Access is allowed. • Deny: Access is denied.
Principal	Map	No	No	The type of the trusted entity.	For more information, see Principal properties.

Principal syntax

```
"Principal": {
  "Service": List,
  "Federated": List,
  "RAM": List
}
```

Principal properties

Property	Type	Required	Editable	Description	Constraint
Service	List	No	No	The Alibaba Cloud service.	None
Federated	List	No	No	The identity provider (IdP).	None
RAM	List	No	No	The Alibaba Cloud account.	None

Policies syntax

```
"Policies": [
  {
    "Description": String,
    "PolicyName": String,
    "PolicyDocument": Map
  }
]
```

Policies properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	Description	The description must be 1 to 1,024 characters in length.
PolicyName	String	Yes	No	The name of the permission policy.	The name must be 1 to 128 characters in length and can contain letters, digits, and hyphens (-).
PolicyDocument	Map	Yes	Yes	The content of the permission policy.	The content can be up to 2,048 characters in length. For more information, see PolicyDocument properties.

PolicyDocument syntax

```
"PolicyDocument": {
  "Version": String,
  "Statement": List
}
```

PolicyDocument properties

Property	Type	Required	Editable	Description	Constraint
Version	String	No	No	The version of the permission policy.	None
Statement	List	No	No	The rules of the permission policy.	None

Statement syntax

```
"Statement": [
  {
    "Condition": Map,
    "Action": List,
    "Resource": List,
    "Effect": String
  }
]
```

Statement properties

Property	Type	Required	Editable	Description	Constraint
Condition	Map	No	No	The restrictions that are required for the permission policy to take effect.	None
Action	List	No	No	The specific operations to which the permission policy is applied.	None
Resource	List	No	No	The specific resources to which the permission policy is applied.	None
Effect	String	No	No	The permission effect.	Valid values: • Allow: Access is allowed. • Deny: Access is denied.

Response parameters

Fn::GetAtt

- RoleId: the ID of the role.
- RoleName: the name of the role.
- Arn: the Alibaba Cloud Resource Name (ARN) of the role.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "RoleName": {
      "Type": "String",
      "Description": "Specifies the role name, containing up to 64 characters."
    },
    "Description": {
```

```
    "Description": {
      "Type": "String",
      "Description": "Remark information, up to 1024 characters or Chinese characters.",
      "MaxLength": 1024
    },
    "Policies": {
      "Type": "Json",
      "Description": "Describes what actions are allowed on what resources."
    },
    "MaxSessionDuration": {
      "Type": "Number",
      "Description": "The maximum session duration of the RAM role.\nValid values: 3600 to 43200. Unit: seconds. Default value:
3600.\nThe default value is used if the parameter is not specified.",
      "MinValue": 3600,
      "MaxValue": 43200
    },
    "AssumeRolePolicyDocument": {
      "Type": "Json",
      "Description": "The RAM assume role policy that is associated with this role."
    }
  },
  "Resources": {
    "Role": {
      "Type": "ALIYUN::RAM::Role",
      "Properties": {
        "RoleName": {
          "Ref": "RoleName"
        },
        "Description": {
          "Ref": "Description"
        },
        "Policies": {
          "Ref": "Policies"
        },
        "MaxSessionDuration": {
          "Ref": "MaxSessionDuration"
        },
        "AssumeRolePolicyDocument": {
          "Ref": "AssumeRolePolicyDocument"
        }
      }
    }
  },
  "Outputs": {
    "RoleName": {
      "Description": "Name of ram role.",
      "Value": {
        "Fn::GetAtt": [
          "Role",
          "RoleName"
        ]
      }
    },
    "Arn": {
      "Description": "Name of alicloud resource.",
      "Value": {
        "Fn::GetAtt": [
          "Role",
          "Arn"
        ]
      }
    },
    "RoleId": {
      "Description": "Id of ram role.",
      "Value": {
        "Fn::GetAtt": [
          "Role",
          "RoleId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  RoleName:
    Type: String
    Description: 'Specifies the role name, containing up to 64 characters.'
  Description:
    Type: String
    Description: 'Remark information, up to 1024 characters or Chinese characters.'
    MaxLength: 1024
  Policies:
    Type: Json
    Description: Describes what actions are allowed on what resources.
  MaxSessionDuration:
    Type: Number
    Description: |-
      The maximum session duration of the RAM role.
      Valid values: 3600 to 43200. Unit: seconds. Default value: 3600.
      The default value is used if the parameter is not specified.
    MinValue: 3600
    MaxValue: 43200
  AssumeRolePolicyDocument:
    Type: Json
    Description: The RAM assume role policy that is associated with this role.
Resources:
  Role:
    Type: 'ALIYUN::RAM::Role'
    Properties:
      RoleName:
        Ref: RoleName
      Description:
        Ref: Description
      Policies:
        Ref: Policies
      MaxSessionDuration:
        Ref: MaxSessionDuration
      AssumeRolePolicyDocument:
        Ref: AssumeRolePolicyDocument
Outputs:
  RoleName:
    Description: Name of ram role.
    Value:
      'Fn::GetAtt':
        - Role
        - RoleName
  Arn:
    Description: Name of alicloud resource.
    Value:
      'Fn::GetAtt':
        - Role
        - Arn
  RoleId:
    Description: Id of ram role.
    Value:
      'Fn::GetAtt':
        - Role
        - RoleId
```

56.8. ALIYUN::RAM::SAMLProvider

ALIYUN::RAM::SAMLProvider is used to create an identity provider (IdP) for role-based single sign-on (SSO).

Syntax

```
{
  "Type": "ALIYUN::RAM::SAMLProvider",
  "Properties": {
    "SAMLProviderName": String,
    "Description": String,
    "SAMLMetadataDocumentURL": String,
    "SAMLMetadataDocument": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SAMLProviderName	String	Yes	No	The name of the IdP.	The name can be up to 128 characters in length and can contain letters, digits, `periods (.), hyphens (-), and underscores (_)`. It cannot start or end with `a period (.), a hyphen (-), or an underscore (_)`.
Description	String	No	Yes	The description of the IdP.	None.
SAMLMetadataDocumentURL	String	No	Yes	The URL of the metadata document.	The URL must be 1 to 1,024 bytes in size. You must specify one of the SAMLMetadataDocumentURL and SAMLMetadataDocument parameters.
SAMLMetadataDocument	String	No	Yes	The content of the metadata document.	The document content must be 1 to 102,400 bytes in size. You must specify one of the SAMLMetadataDocumentURL and SAMLMetadataDocument parameters.

Response parameters

Fn::GetAtt

- SAMLProviderName: the name of the IdP.
- Arn: the Alibaba Cloud Resource Name (ARN) of the IdP.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SAMLProviderName": {
      "Type": "String",
      "Description": "IdP Name. The IdP name can contain a maximum of 128 characters and only letters, numbers, and the followi
ng special characters are accepted: hyphens (-), periods (.), and underscores (_). It cannot start or end with a special charac
ter.",
      "MinLength": 1,
      "MaxLength": 128
    },
    "Description": {
      "Type": "String",
      "Description": "The description can contain a maximum of 256 characters.",
      "MaxLength": 256
    },
    "SAMLMetadataDocumentURL": {
      "Type": "String",
      "Description": "The URL for the file that contains the SAML metadata document. The URL must point to a document located i
n an HTTP or HTTPS web server or an Alibaba Cloud OSS bucket. Examples: oss://ros/document/demo and oss://ros/document/demo? Re
gionId=cn-hangzhou. The URL can be up to 1,024 bytes in length.",
      "MinLength": 1,
      "MaxLength": 1024
    },
    "SAMLMetadataDocument": {
      "Type": "String",
      "Description": "SAML metadata document. The content must be 1 to 102,400 bytes in length. You must specify one of the SAM
LMetadataDocument and SAMLMetadataDocumentURL properties, but you cannot specify both of them.",
      "MinLength": 1,
      "MaxLength": 102400
    }
  },
  "Resources": {
    "SAMLProvider": {
      "Type": "ALIYUN::RAM::SAMLProvider",
      "Properties": {
        "SAMLProviderName": {
          "Ref": "SAMLProviderName"
        },
        "Description": {
          "Ref": "Description"
        },
        "SAMLMetadataDocumentURL": {
          "Ref": "SAMLMetadataDocumentURL"
        },
        "SAMLMetadataDocument": {
          "Ref": "SAMLMetadataDocument"
        }
      }
    }
  },
  "Outputs": {
    "SAMLProviderName": {
      "Description": "IdP Name.",
      "Value": {
        "Fn::GetAtt": [
          "SAMLProvider",
          "SAMLProviderName"
        ]
      }
    },
    "Arn": {
      "Description": "ARN.",
      "Value": {
        "Fn::GetAtt": [
          "SAMLProvider",
          "Arn"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  SAMLProviderName:
    Type: String
    Description: >-
      IdP Name. The IdP name can contain a maximum of 128 characters and only
      letters, numbers, and the following special characters are accepted:
      hyphens (-), periods (.), and underscores (_). It cannot start or end with
      a special character.
    MinLength: 1
    MaxLength: 128
  Description:
    Type: String
    Description: The description can contain a maximum of 256 characters.
    MaxLength: 256
  SAMLMetadataDocumentURL:
    Type: String
    Description: >-
      The URL for the file that contains the SAML metadata document. The URL
      must point to a document located in an HTTP or HTTPS web server or an
      Alibaba Cloud OSS bucket. Examples: oss://ros/document/demo and
      oss://ros/document/demo? RegionId=cn-hangzhou. The URL can be up to 1,024
      bytes in length.
    MinLength: 1
    MaxLength: 1024
  SAMLMetadataDocument:
    Type: String
    Description: >-
      SAML metadata document. The content must be 1 to 102,400 bytes in
      length. You must specify one of the SAMLMetadataDocument and
      SAMLMetadataDocumentURL properties, but you cannot specify both of them.
    MinLength: 1
    MaxLength: 102400
Resources:
  SAMLProvider:
    Type: 'ALIYUN::RAM::SAMLProvider'
    Properties:
      SAMLProviderName:
        Ref: SAMLProviderName
      Description:
        Ref: Description
      SAMLMetadataDocumentURL:
        Ref: SAMLMetadataDocumentURL
      SAMLMetadataDocument:
        Ref: SAMLMetadataDocument
Outputs:
  SAMLProviderName:
    Description: IdP Name.
    Value:
      'Fn::GetAtt':
        - SAMLProvider
        - SAMLProviderName
  Arn:
    Description: ARN.
    Value:
      'Fn::GetAtt':
        - SAMLProvider
        - Arn
```

56.9. ALIYUN::RAM::SecurityPreference

ALIYUN::RAM::SecurityPreference is used to configure security preferences for Resource Access Management (RAM) users.

Syntax

```
{
  "Type": "ALIYUN::RAM::SecurityPreference",
  "Properties": {
    "LoginSessionDuration": Integer,
    "AllowUserToManageMFADevices": Boolean,
    "AllowUserToManagePublicKeys": Boolean,
    "LoginNetworkMasks": String,
    "AllowUserToChangePassword": Boolean,
    "AllowUserToManageAccessKeys": Boolean,
    "EnableSaveMFATicket": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LoginSessionDuration	Integer	No	Yes	The validity period of the logon session of a RAM user.	Valid values: 6 to 24. Default value: 6. Unit: hours.
AllowUserToManageMFADevices	Boolean	No	Yes	Specifies whether RAM users can manage their multi-factor authentication (MFA) devices.	Default value: true. Valid values: • true: RAM users can manage their MFA devices. • false: RAM users cannot manage their MFA devices.
AllowUserToManagePublicKeys	Boolean	No	Yes	Specifies whether RAM users can manage their public keys.	Default value: false. Valid values: • true: RAM users can manage their public keys. • false: RAM users cannot manage their public keys. **Note** This parameter is valid only for the Japan site.
LoginNetworkMasks	String	No	Yes	The subnet mask that specifies the IP addresses from which logon to the console is allowed.	This parameter applies to password-based logon and single sign-on (SSO). However, this parameter does not apply to API calls that are authenticated based on AccessKey pairs. • If a subnet mask is specified, RAM users can log on to the console only by using the IP addresses in the subnet. • If you do not specify a subnet mask, RAM users can log on to the console by using all IP addresses. If you want to specify multiple subnet masks, separate the subnet masks with semicolons (;). Example: 192.168.0.0/16;10.0.0.0/8. A maximum of 25 subnet masks can be specified. The total length of the subnet masks can be up to 512 characters.
AllowUserToChangePassword	Boolean	No	Yes	Specifies whether RAM users can change their passwords.	Default value: true. Valid values: • true: RAM users can change their passwords. • false: RAM users cannot change their passwords.

Property	Type	Required	Editable	Description	Constraint
AllowUserToManageAccessKeys	Boolean	No	Yes	Specifies whether RAM users can manage their AccessKey pairs.	Default value: false. Valid values: • true: RAM users can manage their AccessKey pairs. • false: RAM users cannot manage their AccessKey pairs.
EnableSaveMFATicket	Boolean	No	Yes	Specifies whether RAM users can save MFA security codes during logon. The security codes are valid for seven days.	Default value: false. Valid values: • true: RAM users can save MFA security codes during logon. • false: RAM users cannot save MFA security codes during logon.

Response parameters

Fn::GetAtt

- LoginSessionDuration: the validity period of the logon session of a RAM user.
- AllowUserToManageMFADevices: indicates whether RAM users can manage their MFA devices.
- AllowUserToManagePublicKeys: indicates whether RAM users can manage their public keys.
- LoginNetworkMasks: the subnet masks.
- AllowUserToChangePassword: indicates whether RAM users can change their passwords.
- AllowUserToManageAccessKeys: indicates whether RAM users can manage their AccessKey pairs.
- EnableSaveMFATicket: indicates whether RAM users can save MFA security codes during logon.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LoginSessionDuration": {
      "Type": "Number",
      "Description": "The validity period of the logon session of the RAM user.\nValid values: 6 to 24. Default value: 6. Unit:
hours."
    },
    "AllowUserToManageMFADevices": {
      "Type": "Boolean",
      "Description": "Specifies whether RAM users can manage their MFA devices. Valid values:\ntrue: RAM users can manage their
MFA devices. This is the default value.\nfalse: RAM users cannot manage their MFA devices.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "AllowUserToManagePublicKeys": {
      "Type": "Boolean",
      "Description": "Specifies whether RAM users can manage their public keys. Valid values:\ntrue: RAM users can manage their
public keys.\nfalse: RAM users cannot manage their public keys. This is the default value.\nNote This parameter is valid only f
or the Japan site.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "LoginNetworkMasks": {
      "Type": "String",
      "Description": "The subnet mask that specifies the IP addresses from which logon to the console is\nallowed. This paramet
er applies to password-based logon and single sign-on (SSO).\nHowever, this parameter does not apply to API calls that are auth
enticated based on\nAccessKey pairs.\nIf a subnet mask is specified, RAM users can log on to the console only by using the\nIP
addresses in the subnet.\nIf you do not specify a subnet mask, RAM users can log on to the console by using\nall IP addresses.\
nIf you want to specify multiple subnet masks, separate the subnet masks with semicolons\n(;). Example: 192.168.0.0/16;10.0.0.0
/8.\nA maximum of 25 subnet masks can be set. The total length of the subnet masks can\nbe 1 to 512 characters."
```

```
    },
    "AllowUserToChangePassword": {
      "Type": "Boolean",
      "Description": "Specifies whether RAM users can change their passwords. Valid values:\ntrue: RAM users can change their p
asswords. This is the default value.\nfalse: RAM users cannot change their passwords.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "AllowUserToManageAccessKeys": {
      "Type": "Boolean",
      "Description": "Specifies whether RAM users can manage their AccessKey pairs. Valid values:\ntrue: RAM users can manage t
heir AccessKey pairs.\nfalse: RAM users cannot manage their AccessKey pairs. This is the default value.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "EnableSaveMFATicket": {
      "Type": "Boolean",
      "Description": "Specifies whether RAM users can save multi-factor authentication (MFA) security codes\nduring logon. The
security codes are valid for 7 days. Valid values:\ntrue: RAM users can save MFA security codes during logon.\nfalse: RAM users
cannot save MFA security codes during logon. This is the default\nvalue.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    }
  },
  "Resources": {
    "SecurityPreference": {
      "Type": "ALIYUN::RAM::SecurityPreference",
      "Properties": {
        "LoginSessionDuration": {
          "Ref": "LoginSessionDuration"
        },
        "AllowUserToManageMFADevices": {
          "Ref": "AllowUserToManageMFADevices"
        },
        "AllowUserToManagePublicKeys": {
          "Ref": "AllowUserToManagePublicKeys"
        },
        "LoginNetworkMasks": {
          "Ref": "LoginNetworkMasks"
        },
        "AllowUserToChangePassword": {
          "Ref": "AllowUserToChangePassword"
        },
        "AllowUserToManageAccessKeys": {
          "Ref": "AllowUserToManageAccessKeys"
        },
        "EnableSaveMFATicket": {
          "Ref": "EnableSaveMFATicket"
        }
      }
    }
  },
  "Outputs": {
    "LoginSessionDuration": {
      "Description": "The validity period of the logon session of the RAM user.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "LoginSessionDuration"
        ]
      }
    },
```

```
    "AllowUserToManageMFADevices": {
      "Description": "Specifies whether RAM users can manage their MFA devices.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "AllowUserToManageMFADevices"
        ]
      }
    },
    "AllowUserToManagePublicKeys": {
      "Description": "Specifies whether RAM users can manage their public keys.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "AllowUserToManagePublicKeys"
        ]
      }
    },
    "LoginNetworkMasks": {
      "Description": "The subnet mask that specifies the IP addresses from which logon to the console is allowed.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "LoginNetworkMasks"
        ]
      }
    },
    "AllowUserToChangePassword": {
      "Description": "Specifies whether RAM users can change their passwords.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "AllowUserToChangePassword"
        ]
      }
    },
    "AllowUserToManageAccessKeys": {
      "Description": "Specifies whether RAM users can manage their AccessKey pairs.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "AllowUserToManageAccessKeys"
        ]
      }
    },
    "EnableSaveMFATicket": {
      "Description": "Specifies whether RAM users can save multi-factor authentication (MFA) security codes during logon.",
      "Value": {
        "Fn::GetAtt": [
          "SecurityPreference",
          "EnableSaveMFATicket"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AllowUserToChangePassword:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether RAM users can change their passwords. Valid values:
      true: RAM users can change their passwords. This is the default value.
      false: RAM users cannot change their passwords.'
    Type: Boolean
  AllowUserToManageAccessKeys:
    AllowedValues:
    - 'True'
```

```
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether RAM users can manage their AccessKey pairs. Valid
      values:
      true: RAM users can manage their AccessKey pairs.
      false: RAM users cannot manage their AccessKey pairs. This is the default value.'
    Type: Boolean
  AllowUserToManageMFADevices:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether RAM users can manage their MFA devices. Valid
      values:
      true: RAM users can manage their MFA devices. This is the default value.
      false: RAM users cannot manage their MFA devices.'
    Type: Boolean
  AllowUserToManagePublicKeys:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether RAM users can manage their public keys. Valid
      values:
      true: RAM users can manage their public keys.
      false: RAM users cannot manage their public keys. This is the default value.
      Note This parameter is valid only for the Japan site.'
    Type: Boolean
  EnableSaveMFATicket:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether RAM users can save multi-factor authentication
      (MFA) security codes
      during logon. The security codes are valid for 7 days. Valid values:
      true: RAM users can save MFA security codes during logon.
      false: RAM users cannot save MFA security codes during logon. This is the default
      value.'
    Type: Boolean
  LoginNetworkMasks:
    Description: 'The subnet mask that specifies the IP addresses from which logon
      to the console is
      allowed. This parameter applies to password-based logon and single sign-on (SSO).
      However, this parameter does not apply to API calls that are authenticated based
      on
      AccessKey pairs.
      If a subnet mask is specified, RAM users can log on to the console only by using
      the
      IP addresses in the subnet.
      If you do not specify a subnet mask, RAM users can log on to the console by
      using
      all IP addresses.
      If you want to specify multiple subnet masks, separate the subnet masks with
      semicolons
      (;). Example: 192.168.0.0/16;10.0.0.0/8.
      A maximum of 25 subnet masks can be set. The total length of the subnet masks
      can
      be 1 to 512 characters.'
    Type: String
  LoginSessionDuration:
    Description: 'The validity period of the logon session of the RAM user.
      Valid values: 6 to 24. Default value: 6. Unit: hours.'
    Type: Number
Resources:
  SecurityPreference:
    Properties:
      AllowUserToChangePassword:
        Ref: AllowUserToChangePassword
      AllowUserToManageAccessKeys:
```

```
        Ref: AllowUserToManageAccessKeys
      AllowUserToManageMFADevices:
        Ref: AllowUserToManageMFADevices
      AllowUserToManagePublicKeys:
        Ref: AllowUserToManagePublicKeys
      EnableSaveMFATicket:
        Ref: EnableSaveMFATicket
      LoginNetworkMasks:
        Ref: LoginNetworkMasks
      LoginSessionDuration:
        Ref: LoginSessionDuration
    Type: ALIYUN::RAM::SecurityPreference
Outputs:
  AllowUserToChangePassword:
    Description: Specifies whether RAM users can change their passwords.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - AllowUserToChangePassword
  AllowUserToManageAccessKeys:
    Description: Specifies whether RAM users can manage their AccessKey pairs.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - AllowUserToManageAccessKeys
  AllowUserToManageMFADevices:
    Description: Specifies whether RAM users can manage their MFA devices.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - AllowUserToManageMFADevices
  AllowUserToManagePublicKeys:
    Description: Specifies whether RAM users can manage their public keys.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - AllowUserToManagePublicKeys
  EnableSaveMFATicket:
    Description: Specifies whether RAM users can save multi-factor authentication
      (MFA) security codes during logon.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - EnableSaveMFATicket
  LoginNetworkMasks:
    Description: The subnet mask that specifies the IP addresses from which logon
      to the console is allowed.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - LoginNetworkMasks
  LoginSessionDuration:
    Description: The validity period of the logon session of the RAM user.
    Value:
      Fn::GetAtt:
      - SecurityPreference
      - LoginSessionDuration
```

56.10. ALIYUN::RAM::User

ALIYUN::RAM::User is used to create a RAM user.

Syntax

```
{
  "Type": "ALIYUN::RAM::User",
  "Properties": {
    "UserName": String,
    "DisplayName": String,
    "LoginProfile": Map,
    "Groups": List,
    "MobilePhone": String,
    "Email": String,
    "Comments": String,
    "Policies": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
UserName	String	Yes	No	The name of the RAM user.	The name can be up to 64 characters in length.
DisplayName	String	No	No	The display name of the RAM user.	The name can be up to 12 characters in length.
LoginProfile	Map	No	No	The logon configurations of the RAM user.	For more information, see LoginProfile properties.
Groups	List	No	No	The groups to which the RAM user is added.	None
MobilePhone	String	No	No	The mobile phone number of the RAM user.	None
Email	String	No	No	The email address of the RAM user.	None
Comments	String	No	No	The note of the RAM user.	The note must be 1 to 128 characters in length.
Policies	List	No	Yes	The permission policies to be applied to the RAM user.	For more information, see Policies properties.

LoginProfile syntax

```
"LoginProfile": {
  "MFABindRequired": Boolean,
  "Password": String,
  "PasswordResetRequired": Boolean
}
```

LoginProfile properties

Property	Type	Required	Editable	Description	Constraint
MFABindRequired	Boolean	No	No	Specifies whether the RAM user must bind a multi-factor authentication (MFA) device upon the next logon.	None

Property	Type	Required	Editable	Description	Constraint
Password	String	No	No	The logon password.	The password must be 8 to 32 characters in length and must comply with the password strength requirements.
PasswordResetRequired	Boolean	No	No	Specifies whether the RAM user has to change the password upon logon.	None

Policies syntax

```
"Policies": [
  {
    "PolicyName": String,
    "PolicyDocument": Map,
    "Description": String
  }
]
```

Policies properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the permission policy.	The description must be 1 to 1,024 characters in length.
PolicyName	String	Yes	No	The name of the permission policy.	The name must be 1 to 128 characters in length and can contain letters, digits, and hyphens (-).
PolicyDocument	Map	Yes	Yes	The content of the permission policy.	The content can be up to 2,048 characters in length. For more information, see PolicyDocument properties.

PolicyDocument syntax

```
"PolicyDocument": {
  "Version": String,
  "Statement": List
}
```

PolicyDocument properties

Property	Type	Required	Editable	Description	Constraint
Version	String	No	No	The version of the permission policy.	None
Statement	List	No	No	The rules of the permission policy.	For more information, see Statement properties.

Statement syntax

```
"Statement": [
  {
    "Condition": Map,
    "Action": List,
    "Resource": List,
    "Effect": String
  }
]
```

Statement properties

Property	Type	Required	Editable	Description	Constraint
Condition	Map	No	No	The restrictions that are required for the permission policy to take effect.	None
Action	List	No	No	The specific operations to which the permission policy is applied.	None
Resource	List	No	No	The specific resources to which the permission policy is applied.	None
Effect	String	No	No	The permission effect.	Valid values: • Allow: Access is allowed. • Deny: Access is denied.

Response parameters

Fn::GetAtt

- UserName: the name of the RAM user.
- UserId: the ID of the RAM user.
- CreateDate: the time when the RAM user was created.
- LastLoginDate: the last logon time of the RAM user.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "UserName": {
      "Type": "String",
      "Description": "Specifies the user name, containing up to 64 characters."
    },
    "Policies": {
      "Type": "Json",
      "Description": "Describes what actions are allowed on what resources."
    },
    "Email": {
      "Type": "String",
      "Description": "Email of ram user."
    },
    "Comments": {
      "Type": "String",
      "Description": "Comments of ram user.",
      "MinLength": 1,
      "MaxLength": 128
    },
    "Groups": {
      "Type": "CommaDelimitedList",
      "Description": "A name of a group to which you want to add the user."
    },
    "DisplayName": {
```

```
    "DisplayName": {
      "Type": "String",
      "Description": "Display name, up to 128 characters or Chinese characters."
    },
    "LoginProfile": {
      "Type": "Json",
      "Description": "Creates a login profile for users so that they can access the AliCloud Management Console."
    },
    "MobilePhone": {
      "Type": "String",
      "Description": "Phone number of ram user."
    }
  },
  "Resources": {
    "User": {
      "Type": "ALIYUN::RAM::User",
      "Properties": {
        "UserName": {
          "Ref": "UserName"
        },
        "Policies": {
          "Ref": "Policies"
        },
        "Email": {
          "Ref": "Email"
        },
        "Comments": {
          "Ref": "Comments"
        },
        "Groups": {
          "Ref": "Groups"
        },
        "DisplayName": {
          "Ref": "DisplayName"
        },
        "LoginProfile": {
          "Ref": "LoginProfile"
        },
        "MobilePhone": {
          "Ref": "MobilePhone"
        }
      }
    }
  },
  "Outputs": {
    "UserName": {
      "Description": "Name of ram user.",
      "Value": {
        "Fn::GetAtt": [
          "User",
          "UserName"
        ]
      }
    },
    "UserId": {
      "Description": "Id of ram user.",
      "Value": {
        "Fn::GetAtt": [
          "User",
          "UserId"
        ]
      }
    },
    "LastLoginDate": {
      "Description": "Last login date of ram user.",
      "Value": {
        "Fn::GetAtt": [
          "User",
          "LastLoginDate"
        ]
      }
    },
    "CreateDate": {
      "Description": "Create date of ram user.",
      "Value": {
```

```
        "Fn::GetAtt": [
          "User",
          "CreateDate"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  UserName:
    Type: String
    Description: 'Specifies the user name, containing up to 64 characters.'
  Policies:
    Type: Json
    Description: Describes what actions are allowed on what resources.
  Email:
    Type: String
    Description: Email of ram user.
  Comments:
    Type: String
    Description: Comments of ram user.
    MinLength: 1
    MaxLength: 128
  Groups:
    Type: CommaDelimitedList
    Description: A name of a group to which you want to add the user.
  DisplayName:
    Type: String
    Description: 'Display name, up to 128 characters or Chinese characters.'
  LoginProfile:
    Type: Json
    Description: >-
      Creates a login profile for users so that they can access the AliCloud
      Management Console.
  MobilePhone:
    Type: String
    Description: Phone number of ram user.
Resources:
  User:
    Type: 'ALIYUN::RAM::User'
    Properties:
      UserName:
        Ref: UserName
      Policies:
        Ref: Policies
      Email:
        Ref: Email
      Comments:
        Ref: Comments
      Groups:
        Ref: Groups
      DisplayName:
        Ref: DisplayName
      LoginProfile:
        Ref: LoginProfile
      MobilePhone:
        Ref: MobilePhone
Outputs:
  UserName:
    Description: Name of ram user.
    Value:
      'Fn::GetAtt':
        - User
        - UserName
  UserId:
    Description: Id of ram user.
    Value:
      'Fn::GetAtt':
        - User
```

```
        - UserId
  LastLoginDate:
    Description: Last login date of ram user.
    Value:
      'Fn::GetAtt':
        - User
        - LastLoginDate
  CreateDate:
    Description: Create date of ram user.
    Value:
      'Fn::GetAtt':
        - User
        - CreateDate
```

56.11. ALIYUN::RAM::UserToGroupAddition

ALIYUN::RAM::UserToGroupAddition is used to add users to a RAM group.

Syntax

```
{
  "Type": "ALIYUN::RAM::UserToGroupAddition",
  "Properties": {
    "GroupName": String,
    "Users": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
GroupName	String	Yes	No	The name of the RAM group.	The name must be 1 to 64 characters in length and can contain letters, digits, and hyphens (-).
Users	List	Yes	No	The list of RAM users.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
    "Resources": {
      "RamUserToGroup": {
        "Type": "ALIYUN::RAM::UserToGroupAddition",
          "Properties": {
            "GroupName": "hope",
              "Users": ["hope"]
          }
      }
    },
    "Outputs": {
        "GroupName": {
            "Value": {"Fn::GetAtt": ["RamUserToGroup", "GroupName"]}
        }
    }
}
```

57.RDS

57.1. ALIYUN::RDS::Account

ALIYUN::RDS::Account is used to create a database account for an ApsaraDB for RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::Account",
  "Properties": {
    "AccountDescription": String,
    "DBInstanceId": String,
    "AccountPassword": String,
    "AccountType": String,
    "AccountName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AccountDescription	String	No	Yes	The description of the database account.	The description must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens(-). It must start with a letter.
DBInstanceId	String	Yes	No	The ID of the instance.	None
AccountPassword	String	Yes	No	The password of the database account.	The password must be 8 to 32 characters in length and must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `! @#$&%^* ()_+-=`
AccountType	String	No	No	The type of the database account.	Default value: Normal. Valid values: • Normal: standard account • Super: privileged account **Note** Privileged accounts in ApsaraDB RDS for SQL Server instances cannot be deleted.
AccountName	String	Yes	No	The name of the database account.	None

Response parameters

Fn::GetAtt

AccountName: the name of the database account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AccountDescription": {
      "Type": "String",
      "Description": "Account remarks.\nIt cannot begin with http:// or https://.\nIt must start with a Chinese character or En
glish letter.\nIt can include Chinese and English characters/letters, underscores (_), hyphens (-), and digits.\nThe length may
be 2-256 characters."
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "RDS instance ID."
    },
    "AccountType": {
      "Type": "String",
      "Description": "Privilege type of account.\nNormal: Common privilege.\nSuper: High privilege. And the default value is No
rmal.\nThis parameter is valid for MySQL 5.5/5.6 only.\nMySQL 5.7, SQL Server 2012/2016, PostgreSQL, and PPAS each can have onl
y one initial account. Other accounts are created by the initial account that has logged on to the database.",
      "AllowedValues": [
        "Normal",
        "Super"
      ],
      "Default": "Normal"
    },
    "AccountPassword": {
      "Type": "String",
      "Description": "The account password for the database instance. It may consist of letters, digits, or underlines, with a
length of 8 to 32 characters.",
      "MinLength": 8,
      "MaxLength": 32
    },
    "AccountName": {
      "Type": "String",
      "Description": "Account name, which must be unique and meet the following requirements:\nStart with a letter;\nConsist of
lower-case letters, digits, and underscores (_);\nContain no more than 16 characters.\nFor other invalid characters, see Forbid
den keywords table."
    }
  },
  "Resources": {
    "Account": {
      "Type": "ALIYUN::RDS::Account",
      "Properties": {
        "AccountDescription": {
          "Ref": "AccountDescription"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "AccountType": {
          "Ref": "AccountType"
        },
        "AccountPassword": {
          "Ref": "AccountPassword"
        },
        "AccountName": {
          "Ref": "AccountName"
        }
      }
    }
  },
  "Outputs": {
    "AccountName": {
      "Description": "Account name",
      "Value": {
        "Fn::GetAtt": [
          "Account",
          "AccountName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AccountDescription:
    Type: String
    Description: >-
      Account remarks.
      It cannot begin with http:// or https://.
      It must start with a Chinese character or English letter.
      It can include Chinese and English characters/letters, underscores (_),
      hyphens (-), and digits.
      The length may be 2-256 characters.
  DBInstanceId:
    Type: String
    Description: RDS instance ID.
  AccountType:
    Type: String
    Description: >-
      Privilege type of account.
      Normal: Common privilege.
      Super: High privilege. And the default value is Normal.
      This parameter is valid for MySQL 5.5/5.6 only.
      MySQL 5.7, SQL Server 2012/2016, PostgreSQL, and PPAS each can have only
      one initial account. Other accounts are created by the initial account
      that has logged on to the database.
    AllowedValues:
      - Normal
      - Super
    Default: Normal
  AccountPassword:
    Type: String
    Description: >-
      The account password for the database instance. It may consist of letters,
      digits, or underlines, with a length of 8 to 32 characters.
    MinLength: 8
    MaxLength: 32
  AccountName:
    Type: String
    Description: |-
      Account name, which must be unique and meet the following requirements:
      Start with a letter;
      Consist of lower-case letters, digits, and underscores (_);
      Contain no more than 16 characters.
      For other invalid characters, see Forbidden keywords table.
Resources:
  Account:
    Type: 'ALIYUN::RDS::Account'
    Properties:
      AccountDescription:
        Ref: AccountDescription
      DBInstanceId:
        Ref: DBInstanceId
      AccountType:
        Ref: AccountType
      AccountPassword:
        Ref: AccountPassword
      AccountName:
        Ref: AccountName
Outputs:
  AccountName:
    Description: Account name
    Value:
      'Fn::GetAtt':
        - Account
        - AccountName
```

57.2. ALIYUN::RDS::AccountPrivilege

ALIYUN::RDS::AccountPrivilege is used to grant database access permissions to accounts.

Syntax

```
{
  "Type": "ALIYUN::RDS::AccountPrivilege",
  "Properties": {
    "AccountPrivilege": String,
    "DBInstanceId": String,
    "DBName": String,
    "AccountName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
AccountPrivilege	String	Yes	Yes	The account permissions on a database. Valid values: • ReadWrite: The account has read and write permissions on the database. • ReadOnly: The account has read-only permission on the database. • DDLOnly: The account can run only data definition language (DDL) commands in the database. This is applicable to MySQL and MariaDB. • DMLOnly: The account can run only data manipulation language (DML) commands in the database. This is applicable to MySQL and MariaDB. • DBOwner: The account has full permissions on the database. This is applicable to SQL Server.	Valid values: ReadWrite, ReadOnly, DDLOnly, DMLOnly, and DBOwner.
DBInstanceId	String	Yes	No	The ID of the database.	None
DBName	String	Yes	No	The name of the database.	None
AccountName	String	Yes	No	The name of the account.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AccountPrivilege": {
      "Type": "ALIYUN::RDS::AccountPrivilege",
      "Properties": {
        "AccountPrivilege": {
          "Ref": "AccountPrivilege"
        },
        "DBInstanceId": [
          "Ref": "DBInstanceId"
        },
        "DBName": {
          "Ref": "DBName"
        },
        "AccountName": {
          "Ref": "AccountName"
        }
      }
    }
  },
  "Parameters": {
    "AccountPrivilege": {
      "Type": "String",
      "Description": "RDS account privilege",
      "AllowedValues": ["ReadOnly", "ReadWrite", "DDLOnly", "DMLOnly", "DBOwner"]
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "RDS instance ID."
    },
    "DBName": {
      "Type": "String",
      "Description": "RDS database name"
    },
    "AccountName": {
      "Type": "String",
      "Description": "RDS account name."
    }
  },
  "Outputs": {}
}
```

57.3. ALIYUN::RDS::ADInfo

ALIYUN::RDS::ADInfo is used to configure Active Directory Domain Services (AD DS).

Syntax

```
{
  "Type": "ALIYUN::RDS::ADInfo",
  "Properties": {
    "ADServerIpAddress": String,
    "ADDNS": String,
    "DBInstanceId": String,
    "ADPassword": String,
    "ADAccountName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ADServerIpAddress	String	Yes	No	The IP address of the AD server.	The AD server and the ApsaraDB RDS instance must be within the same VPC.
ADDNS	String	Yes	No	The AD domain name.	None

Property	Type	Required	Editable	Description	Constraint
DBInstanceId	String	Yes	No	The ID of the ApsaraDB RDS instance.	None
ADPassword	String	Yes	No	The password of the AD domain account.	None
ADAccountName	String	Yes	No	The account of the AD domain.	None

Response parameters

Fn::GetAtt

- ADDNS: the AD domain name.
- DBInstanceId: the ID of the ApsaraDB RDS instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ADServerIpAddress": {
      "Type": "String",
      "Description": "The IP address of the AD server, it must be in the same VPC as the RDS."
    },
    "ADDNS": {
      "Type": "String",
      "Description": "Active directory domain name."
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "The ID of the instance."
    },
    "ADPassword": {
      "Type": "String",
      "Description": "Domain password. "
    },
    "ADAccountName": {
      "Type": "String",
      "Description": "Domain account name. "
    }
  },
  "Resources": {
    "AdInfo": {
      "Type": "ALIYUN::RDS::ADInfo",
      "Properties": {
        "ADServerIpAddress": {
          "Ref": "ADServerIpAddress"
        },
        "ADDNS": {
          "Ref": "ADDNS"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "ADPassword": {
          "Ref": "ADPassword"
        },
        "ADAccountName": {
          "Ref": "ADAccountName"
        }
      }
    }
  },
  "Outputs": {
    "ADDNS": {
      "Description": "Active directory domain name.",
      "Value": {
        "Fn::GetAtt": [
          "AdInfo",
          "ADDNS"
        ]
      }
    },
    "DBInstanceId": {
      "Description": "The ID of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "AdInfo",
          "DBInstanceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ADServerIpAddress:
    Type: String
    Description: 'The IP address of the AD server, it must be in the same VPC as the RDS.'
  ADDNS:
    Type: String
    Description: Active directory domain name.
  DBInstanceId:
    Type: String
    Description: The ID of the instance.
  ADPassword:
    Type: String
    Description: 'Domain password. '
  ADAccountName:
    Type: String
    Description: 'Domain account name. '
Resources:
  AdInfo:
    Type: 'ALIYUN::RDS::ADInfo'
    Properties:
      ADServerIpAddress:
        Ref: ADServerIpAddress
      ADDNS:
        Ref: ADDNS
      DBInstanceId:
        Ref: DBInstanceId
      ADPassword:
        Ref: ADPassword
      ADAccountName:
        Ref: ADAccountName
Outputs:
  ADDNS:
    Description: Active directory domain name.
    Value:
      'Fn::GetAtt':
        - AdInfo
        - ADDNS
  DBInstanceId:
    Description: The ID of the instance.
    Value:
      'Fn::GetAtt':
        - AdInfo
        - DBInstanceId
```

57.4. ALIYUN::RDS::Database

ALIYUN::RDS::Database is used to create a database in an ApsaraDB for RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::Database",
  "Properties": {
    "CharacterSetName": String,
    "DBInstanceId": String,
    "DBDescription": String,
    "DBName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
CharacterSetName	String	Yes	No	The character set name of the instance.	Valid values: • For ApsaraDB for MySQL instances or ApsaraDB for MariaDB instances, the valid values are utf8, gbk, latin1, and utf8mb4. • For ApsaraDB for SQL Server instances, the valid values are Chinese_PRC_CI_AS, Chinese_PRC_CS_AS, SQL_Latin1_General_CP1_CI_AS, SQL_Latin1_General_CP1_CS_AS, and Chinese_PRC_BIN. • For ApsaraDB for PostgreSQL instances, the valid values are KOI8U, UTF8, WIN866, WIN874, WIN1250, WIN1251, WIN1252, WIN1253, WIN1254, WIN1255, WIN1256, WIN1257, WIN1258, EUC_CN, EUC_KR, EUC_TW, EUC_JP, EUC_JIS_2004, KOI8R, MULE_INTERNAL, LATIN1, LATIN2, LATIN3, LATIN4, LATIN5, LATIN6, LATIN7, LATIN8, LATIN9, LATIN10, ISO_8859_5, ISO_8859_6, ISO_8859_7, ISO_8859_8, and SQL_ASCII.
DBInstanceId	String	Yes	No	The ID of the instance.	None.
DBDescription	String	No	Yes	The description of the database.	The description must be 2 to 256 characters in length The description must start with a letter and cannot start with `http://` or `https://`. The description can contain letters, digits, underscores (_), and hyphens (-).
DBName	String	Yes	No	The name of the database.	The name must be 2 to 64 characters in length and can contain lowercase letters, digits, underscores (_), and hyphens (-) The name must start with a lowercase letter and end with a lowercase letter or a digit. **Note** Each database name must be unique within an instance.

Response parameters

Fn::GetAtt

- DBInstanceId: the ID of the ApsaraDB for RDS instance.
- DBName: the name of the database.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "CharacterSetName": {
      "Type": "String",
      "Description": "The character set you want to use for the database. Valid values:\nMySQL and MariaDB: utf8 | gbk | latin1
| utf8mb4.\nSQL Server: Chinese_PRC_CI_AS | Chinese_PRC_CS_AS | SQL_Latin1_General_CP1_CI_AS | SQL_Latin1_General_CP1_CS_AS\n|
Chinese_PRC_BIN.\nPostgreSQL: KOI8U | UTF8 | WIN866 | WIN874 | WIN1250 | WIN1251 | WIN1252 | WIN1253 | WIN1254 |\nWIN1255 | WIN
1256 | WIN1257 | WIN1258 | EUC_CN | EUC_KR | EUC_TW | EUC_JP | EUC_JIS_2004\n| KOI8R | MULE_INTERNAL | LATIN1 | LATIN2 | LATIN3
| LATIN4 | LATIN5 | LATIN6 | LATIN7\n| LATIN8 | LATIN9 | LATIN10 | ISO_8859_5 | ISO_8859_6 | ISO_8859_7 | ISO_8859_8 |\nSQL_ASC
II."
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "The ID of the instance."
    },
    "DBDescription": {
      "Type": "String",
      "Description": "The description of the database. The description must be 2 to 256 characters in length.\nThe description
must start with a letter and can contain letters, digits, underscores\n(_), and hyphens (-).\nNote The description cannot start
with http:// or https://."
    },
    "DBName": {
      "Type": "String",
      "Description": "The name of the database you want to create.\nNote\nThe name must be 2 to 64 characters in length.\nThe n
ame must start with a lowercase letter and end with a lowercase letter or digit.\nThe name can contain lowercase letters, digit
s, underscores (_), and hyphens (-).\nThe name must be unique in the instance.\nFor more information about invalid characters,
see Forbidden keywords table."
    }
  },
  "Resources": {
    "Database": {
      "Type": "ALIYUN::RDS::Database",
      "Properties": {
        "CharacterSetName": {
          "Ref": "CharacterSetName"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "DBDescription": {
          "Ref": "DBDescription"
        },
        "DBName": {
          "Ref": "DBName"
        }
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Description": "The ID of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "Database",
          "DBInstanceId"
        ]
      }
    },
    "DBName": {
      "Description": "The name of the database.",
      "Value": {
        "Fn::GetAtt": [
          "Database",
          "DBName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CharacterSetName:
    Type: String
    Description: >-
      The character set you want to use for the database. Valid values:
      MySQL and MariaDB: utf8 | gbk | latin1 | utf8mb4.
      SQL Server: Chinese_PRC_CI_AS | Chinese_PRC_CS_AS |
      SQL_Latin1_General_CP1_CI_AS | SQL_Latin1_General_CP1_CS_AS
      | Chinese_PRC_BIN.
      PostgreSQL: KOI8U | UTF8 | WIN866 | WIN874 | WIN1250 | WIN1251 | WIN1252 |
      WIN1253 | WIN1254 |
      WIN1255 | WIN1256 | WIN1257 | WIN1258 | EUC_CN | EUC_KR | EUC_TW | EUC_JP
      | EUC_JIS_2004
      | KOI8R | MULE_INTERNAL | LATIN1 | LATIN2 | LATIN3 | LATIN4 | LATIN5 |
      LATIN6 | LATIN7
      | LATIN8 | LATIN9 | LATIN10 | ISO_8859_5 | ISO_8859_6 | ISO_8859_7 |
      ISO_8859_8 |
      SQL_ASCII.
  DBInstanceId:
    Type: String
    Description: The ID of the instance.
  DBDescription:
    Type: String
    Description: >-
      The description of the database. The description must be 2 to 256
      characters in length.
      The description must start with a letter and can contain letters, digits,
      underscores
      (_), and hyphens (-).
      Note The description cannot start with http:// or https://.
  DBName:
    Type: String
    Description: >-
      The name of the database you want to create.
      Note
      The name must be 2 to 64 characters in length.
      The name must start with a lowercase letter and end with a lowercase
      letter or digit.
      The name can contain lowercase letters, digits, underscores (_), and
      hyphens (-).
      The name must be unique in the instance.
      For more information about invalid characters, see Forbidden keywords
      table.
Resources:
  Database:
    Type: 'ALIYUN::RDS::Database'
    Properties:
      CharacterSetName:
        Ref: CharacterSetName
      DBInstanceId:
        Ref: DBInstanceId
      DBDescription:
        Ref: DBDescription
      DBName:
        Ref: DBName
Outputs:
  DBInstanceId:
    Description: The ID of the instance.
    Value:
      'Fn::GetAtt':
        - Database
        - DBInstanceId
  DBName:
    Description: The name of the database.
    Value:
      'Fn::GetAtt':
        - Database
        - DBName
```

57.5. ALIYUN::RDS::DBInstance

ALIYUN::RDS::DBInstance is used to create an ApsaraDB RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::DBInstance",
  "Properties": {
    "PeriodType": String,
    "Category": String,
    "PrivateIpAddress": String,
    "ResourceGroupId": String,
    "TargetDedicatedHostIdForSlave": String,
    "DBInstanceNetType": String,
    "DBTimeZone": String,
    "DedicatedHostGroupId": String,
    "EncryptionKey": String,
    "PreferredBackupPeriod": List,
    "SecurityIPList": String,
    "SecurityGroupId": String,
    "DBIsIgnoreCase": Integer,
    "DBInstanceStorage": Integer,
    "DBMappings": List,
    "Port": Integer,
    "ConnectionStringPrefix": String,
    "ConnectionStringType": String,
    "MultiAZ": Boolean,
    "MaintainTime": String,
    "Engine": String,
    "DBParamGroupId": String,
    "DBInstanceDescription": String,
    "Tags": Map,
    "TargetDedicatedHostIdForMaster": String,
    "EngineVersion": String,
    "ZoneId": String,
    "DBInstanceClass": String,
    "AllocatePublicConnection": Boolean,
    "PreferredBackupTime": String,
    "VSwitchId": String,
    "BackupPolicyMode": String,
    "Period": Integer,
    "PayType": String,
    "DBInstanceStorageType": String,
    "RoleARN": String,
    "MasterUserPassword": String,
    "MasterUserType": String,
    "VpcId": String,
    "MasterUsername": String,
    "ConnectionMode": String,
    "BackupRetentionPeriod": Number,
    "TargetDedicatedHostIdForLog": String,
    "SlaveZoneIds": List,
    "AutoRenew": Boolean,
    "SQLCollectorStatus": String,
    "SSLSetting": String,
    "LogBackupFrequency": String,
    "EnableBackupLog": Boolean,
    "ReleasedKeepPolicy": String,
    "ArchiveBackupRetentionPeriod": Integer,
    "ArchiveBackupKeepPolicy": String,
    "ArchiveBackupKeepCount": Integer,
    "LogBackupRetentionPeriod": Integer,
    "HighSpaceUsageProtection": String,
    "LocalLogRetentionSpace": Integer,
    "BackUpCategory": String,
    "CompressType": Integer,
    "LocalLogRetentionHours": Integer,
    "LogBackupLocalRetentionNumber": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group.	None
Engine	String	Yes	No	The database engine that the instance runs.	Valid values: • MySQL • SQLServer • PostgreSQL • PPAS • MariaDB
DBInstanceStorage	Integer	Yes	Yes	The storage capacity of the instance.	• Valid values when Engine is set to MySQL: 5 to 1000. • Valid values when Engine is set to SQLServer: 10 to 1000. • Valid values when Engine is set to PostgreSQL: 5 to 2000. • Valid values when Engine is set to PPAS: 5 to 2000. Unit: GB. Note This value must be in 5 GB increments.
EngineVersion	String	Yes	No	The version of the database engine.	• Valid values when Engine is set to MySQL: 5.5, 5.6, 5.7, and 8.0. • Valid values when Engine is set to SQLServer: 2008r2, 08r2_ent_ha, 2012, 2012_ent_ha, 2012_std_ha, 2012_web, 2014_std_ha, 2016_ent_ha, 2016_std_ha, 2016_web, 2017_std_ha, 2017_ent, and 2019_ent. • Valid values when Engine is set to PostgreSQL: 9.4, 10.0, 11.0, and 12.0. • Valid values when Engine is set to PPAS: 9.3 and 10.0. • Set the value to 10.3 when Engine is set to MariaDB.
Port	Integer	No	Yes	The port that is used to connect to the instance.	None
ConnectionStringPrefix	String	No	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length and can contain letters, digits, and hyphens (-).
ConnectionStringType	String	No	Yes	The type of the endpoint.	Valid values: • Inner: virtual private cloud (VPC) • Public: Internet
DBTimeZone	String	No	No	The UTC time zone of the instance.	Valid values: -12:59 to +13:00. Note • If you do not specify this parameter, the system assigns the default time zone of the region to which the instance belongs. • If you create an instance that has local SSDs attached, you can name the time zone.

Property	Type	Required	Editable	Description	Constraint
DBParamGroupId	String	No	No	The ID of the parameter template to be used by the instance.	None
Category	String	No	No	The edition of the instance.	Valid values: • Basic: Basic Edition • HighAvailability: High-availability Edition • AlwaysOn: Cluster Edition • Finance: Enterprise Edition
TargetDedicatedHostIdForMaster	String	No	No	The ID of the host on which to create a primary instance within a dedicated cluster.	None
DBIsIgnoreCase	Integer	No	No	Specifies whether table names are case-sensitive in the instance.	Default value: 1. Valid values: • 0: Table names are case-sensitive. • 1: Table names are case-insensitive.
EncryptionKey	String	No	No	The ID of the encryption key that is used to encrypt data on SSDs in the region. You can view the ID of an existing encryption key or create an encryption key in the Key Management Service (KMS) console.	If this parameter is specified, disk encryption is enabled and you must also specify the RoleARN parameter. Disk encryption cannot be disabled after it is enabled.
MaintainTime	String	No	No	The maintenance window of the cloned instance.	Specify the maintenance window in the `HH:mmZ-HH:mmZ` format. The time must be in UTC.
TargetDedicatedHostIdForSlave	String	No	No	The ID of the host on which to create a secondary instance within a dedicated cluster.	None
DedicatedHostGroupId	String	No	No	The ID of the dedicated cluster in which to create instances.	None
DBInstanceStorageType	String	No	No	The storage type of the instance.	Valid values: • local_ssd: local SSD. This is the recommended storage type. • cloud_ssd: standard SSD. • cloud_essd: enhanced SSD (ESSD).
RoleARN	String	No	No	The Alibaba Cloud Resource Name (ARN) that is provided to the service account of the instance by your Alibaba Cloud account. This ARN is used to connect to KMS.	For more information, see Authorize an ApsaraDB RDS for MySQL instance to access KMS.
DBInstanceClass	String	Yes	Yes	The instance type.	For more information, see Primary ApsaraDB RDS instance types.
SecurityIPList	String	Yes	Yes	The whitelist of IP addresses that are allowed to access all databases in the instance.	Separate multiple IP addresses with commas (,). Each IP address in the whitelist must be unique. A maximum of 1,000 IP addresses can be specified. Supported formats: • IP addresses. Example: 10.23.XX.XX. • CIDR blocks. For example, 10.23.X.24/24. 24 indicates that the prefix of the CIDR block is 24-bit long. You can replace 24 with a value within the range of 1 to 32.

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	No	Yes	The ID of the associated security group.	Each ApsaraDB RDS instance can be associated with up to three security groups. Separate multiple security groups with commas (,). To delete all security groups, set this parameter to an empty string.
MultiAZ	Boolean	No	No	Specifies whether the instance can be deployed across multiple zones.	Valid values: • true • false
VpcId	String	No	No	The ID of the VPC.	None
DBMappings	List	No	No	The list of one or more databases to be created in the instance.	For more information, see DBMappings properties.
DBInstanceDescription	String	No	No	The description of the instance.	The description must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
ConnectionMode	String	No	No	The connection mode of the instance.	Valid values: • Standard: the standard mode • Safe: the database proxy mode If you do not specify this parameter, the system assigns a connection mode. **Note** If you create an instance that runs SQL Server 2012, SQL Server 2016, or SQL Server 2017, you can set this parameter only to Standard.
MasterUsername	String	No	No	The name of the database account.	The name must be globally unique. The name can be up to 16 characters in length and can contain letters, digits, and underscores (_). It must start with a letter.
MasterUserPassword	String	No	No	The password of the database account.	The password must be 8 to 32 characters in length and can contain letters, digits, and underscores (_).
ZoneId	String	No	No	The ID of the zone.	None
DBInstanceNetType	String	No	No	The network type of the instance.	Default value: Intranet. Valid values: • Internet • Intranet
VSwitchId	String	No	No	The ID of the vSwitch.	Separate multiple vSwitch IDs with commas (,). This parameter is required if the Engine parameter is set to MariaDB.
BackupPolicyMode	String	No	No	The type of the backup.	Valid values: • DataBackupPolicy • LogBackupPolicy
AllocatePublicConnection	Boolean	No	No	Specifies whether to apply for a public endpoint for the instance.	Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
PreferredBackupTime	String	No	No	The backup window.	• Specify the window in the `HH:mmZ- HH:mmZ` format. • Valid values: 00:00Z-01:00Z, 01:00Z-02:00Z, 02:00Z-03:00Z, 03:00Z-04:00Z, 04:00Z-05:00Z, 05:00Z-06:00Z, 06:00Z-07:00Z, 07:00Z-08:00Z, 08:00Z-09:00Z, 09:00Z-10:00Z, 10:00Z-11:00Z, 11:00Z-12:00Z, 12:00Z-13:00Z, 13:00Z-14:00Z, 14:00Z-15:00Z, 15:00Z-16:00Z, 16:00Z-17:00Z, 17:00Z-18:00Z, 18:00Z-19:00Z, 19:00Z-20:00Z, 20:00Z-21:00Z, 21:00Z-22:00Z, 22:00Z-23:00Z, and 23:00Z-24:00Z.
BackupRetentionPeriod	Number	No	No	The number of days for which backup files can be retained.	Valid values: 7 to 30. Unit: days. Default value: 7.
PrivateIpAddress	String	No	No	The private IP address within the CIDR block of the vSwitch.	If you do not specify this parameter, the system allocates a private IP address.
PreferredBackupPeriod	List	No	No	The backup cycle.	Valid values: • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday
MasterUserType	String	No	No	The type of the database account.	Default value: Normal. Valid values: • Normal: standard account • Super: privileged account • Sysadmin: administrator account **Note** This parameter can be set to Sysadmin only when the Engine parameter is set to SQLServer.
Tags	Map	No	Yes	The list of one or more tags. Each tag consists of a tag key and a tag value.	The tag key is required and the tag value is optional. Format example: `{"key1":"value1","key2":""}`.
PeriodType	String	No	No	The unit of the subscription period.	Default value: Month. Valid values: • Month • Year
PayType	String	No	No	The billing method of the instance.	Valid values: • Postpaid: pay-as-you-go • Prepaid: subscription
Period	Integer	No	No	The subscription period of the instance.	• Valid values when PeriodType is set to Year: 1 to 3. • Valid values when PeriodType is set to Month: 1 to 9.
TargetDedicatedHostIdForLog	String	No	No	The ID of the host on which to create a logger instance within a dedicated cluster.	None

Property	Type	Required	Editable	Description	Constraint
SlaveZoneIds	List	No	No	The list of one or more secondary zone IDs that you need to specify when you create a High-availability or Enterprise Edition instance.	A maximum of two secondary zones can be specified. For example, you can set this parameter to `["zone-b"]` or `["zone-b", "zone-c"]`. You must specify a vSwitch in each primary or secondary zone. For example, if ZoneId is set to `"zone-a"` and SlaveZoneIds is set to `["zone-c", "zone-b"]`, you must set the VSwitchID value in the following format: `"vsw-zone-a,vsw-zone-c,vsw-zone-b"`
SQLCollectorStatus	String	No	Yes	Specifies whether to enable SQL Explorer and Audit.	Valid values: • Enable • Disabled
SSLSetting	String	No	No	The settings of the SSL connection for the instance.	Default value: Disabled. Valid values: • Disabled: The SSL connection is disabled. • EnabledForPublicConnection: The SSL connection is enabled. SSL certificates are used to protect public endpoints. Note If you set this parameter to EnabledForPublicConnection, you must set the AllocatePublicConnection parameter to true. • EnabledForInnerConnection: The SSL connection is enabled. SSL certificates are used to protect internal endpoints.
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the instance.	This parameter is required only when the instance uses the subscription billing method. Valid values: • true • false Note • If you set the Period parameter to Month, the auto-renewal cycle is one month. • If you set the Period parameter to Year, the auto-renewal cycle is one year.
LogBackupFrequency	String	No	No	The backup frequency of logs.	Set the value to LogInterval. The value of LogInterval indicates that logs are backed up every 30 minutes. The default value of LogBackupFrequency is the same as that of PreferredBackupPeriod. Note The LogBackupFrequency parameter is supported only when the instance runs SQL Server.

Property	Type	Required	Editable	Description	Constraint
EnableBackupLog	Boolean	No	No	Specifies whether to enable the log backup feature.	Valid values: • True: The log backup feature is enabled. • False: The log backup feature is disabled. Note This parameter is required if the BackupPolicyMode parameter is set to LogBackupPolicy.
ReleasedKeepPolicy	String	No	No	The policy based on which ApsaraDB RDS retains archived backup files after the instance is released.	Valid values: • Lastest: Only the last archived backup file is retained. • All: All archived backup files are retained.
ArchiveBackupRetentionPeriod	Integer	No	No	The number of days for which archived backup files can be retained.	Valid values: 30 to 1095. Unit: days.
ArchiveBackupKeepPolicy	String	No	No	The cycle based on which archived backup files are retained.	Valid values: • ByMonth • ByWeek • KeepAll
ArchiveBackupKeepCount	Integer	No	No	The number of archived backup files that can be retained.	• Valid values when ArchiveBackupKeepPolicy is set to ByMonth: 1 to 31. • Valid values when ArchiveBackupKeepPolicy is set to ByWeek: 1 to 7. • When you set ArchiveBackupKeepPolicy to KeepAll, this parameter is not required. Default value: 1.
LogBackupRetentionPeriod	Integer	No	No	The number of days for which log backup files can be retained.	Valid values: 7 to 730. The retention period of log backup files cannot be longer than that of data backup files. Note You can specify the retention period of log backup files if you enable the log backup feature.
HighSpaceUsageProtection	String	No	No	Specifies whether to delete log backup files if the disk capacity is insufficient. The capacity is insufficient if the storage usage of your RDS instance exceeds 80%, or the remaining storage space is less than 5 GB.	Valid values: • Enable • Disable This parameter is required if the BackupPolicyMode parameter is set to LogBackupPolicy.
LocalLogRetentionSpace	Integer	No	No	The maximum percentage of space allowed to store log backup files on the instance.	Valid values: 0 to 50. If the space usage for log backup files exceeds this percentage, the system deletes earlier binary log files until the space usage falls below this percentage. Note This parameter is required if the BackupPolicyMode parameter is set to LogBackupPolicy.

Property	Type	Required	Editable	Description	Constraint
BackUpCategory	String	No	No	Specifies whether to enable level-2 backup.	Valid values: • Flash: Level-2 backup is enabled. • Standard: Level-2 backup is disabled.
CompressType	Integer	No	No	The format used to compress backup data.	Valid values: • 1: uses zlib to compress backup data into .tar.gz files. • 4: uses QuickLZ to compress backup data into .xb.gz files. This compression format is supported only when the instance runs MySQL 5.6 or 5.7. This format can be used to restore individual databases and tables. • 8: uses QuickLZ to compress backup data into .xb.gz files. This compression format is supported only when the instance runs MySQL 8.0. This format cannot be used to restore individual databases or tables.
LocalLogRetentionHours	Integer	No	No	The number of hours for which log backup files can be retained on the instance.	Valid values: 0 to 168. Unit: hours. A value of 0 indicates that log backup files are not retained on the instance. **Note** This parameter is required if the BackupPolicyMode parameter is set to LogBackupPolicy.
LogBackupLocalRetentionNumber	Integer	No	No	The number of log backup files that can be retained on the instance.	Valid values: 6 to 100. Default value: 60.

DBMappings syntax

```
"DBMappings": [
  {
    "DBDescription": String,
    "CharacterSetName": String,
    "DBName": String
  }
]
```

DBMappings properties

Property	Type	Required	Editable	Description	Constraint

CharacterSetName	String	Yes	No	The character set.	• Valid values when Engine is set to MySQL:
					  ○ utf8
					  ○ gbk
					  ○ latin1
					  ○ utf8mb4 (applicable to versions 5.5 and 5.6)
					• Valid values when Engine is set to SQLServer:
					  ○ Chinese_PRC_CI_AS
					  ○ Chinese_PRC_CS_AS
					  ○ SQL_Latin1_General_CP1_CI_AS
					  ○ SQL_Latin1_General_CP1_CS_AS
					  ○ Chinese_PRC_BIN

Property	Type	Required	Editable	Description	Constraint
DBName	String	Yes	No	The name of the database.	The name must be globally unique. The name can be up to 64 characters in length and can contain letters, digits, and underscores (_). It must start with a letter.
DBDescription	String	No	No	The description of the database.	The description must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.

Response parameters

Fn::GetAtt

- DBInstanceId: the ID of the instance.
- InnerPort: the internal port of the instance.
- InnerIPAddress: the internal IP address of the instance.
- InnerConnectionString: the internal endpoint of the instance.
- PublicPort: the public port of the instance.
- PublicConnectionString: the public endpoint of the instance.
- PublicIPAddress: the public IP address of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances.",
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "ArchiveBackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The number of days for which to retain archived backups. \n The default value 0 specifies not to enable t
he backup archiving function. Valid values: 30 to 1095.",
      "MinValue": 30,
      "MaxValue": 1095
    },
    "DBTimeZone": {
      "Type": "String",
      "Description": "The UTC time zone of the instance. Valid values: -12:00 to +12:00. The time zone must be an integer value
such as +08:00. Values such as +08:30 are not allowed."
    },
    "Port": {
      "Type": "Number",
      "Description": "The port of the database service.",
      "MinValue": 1,
      "MaxValue": 65535
    },
    "ArchiveBackupKeepCount": {
      "Type": "Number",
      "Description": "The number of archived backups that can be retained. Default value: 1. Valid values: \nThe value of this
parameter ranges from 1 to 31 when the ArchiveBackupKeepPolicy \n parameter is set to ByMonth. \nThe value of this parameter ra
nges from 1 to 7 when the ArchiveBackupKeepPolicy \n parameter is set to ByWeek. \nNote You do not need to specify this paramet
er when the ArchiveBackupKeepPolicy \nparameter is set to KeepAll.",
      "MinValue": 1,
```

```
      "MaxValue": 31
    },
    "LogBackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The number of days for which to retain log backup files. Valid values: 7 to 730. The log backup \n retent
ion period cannot be longer than the data backup retention period. Note If you enable the log \n backup function, you can speci
fy the log backup retention period. This applies only when the \n instance runs MySQL, PostgreSQL, or PPAS.",
      "MinValue": 7,
      "MaxValue": 730
    },
    "DBInstanceStorage": {
      "Type": "Number",
      "Description": "Database instance storage size. mysql is [5,1000]. sql server 2008r2 is [10,1000], sql server 2012/2012_w
eb/2016-web is [20,1000]. PostgreSQL and PPAS is [5,2000]. Increased every 5 GB, Unit in GB"
    },
    "DBMappings": {
      "Type": "Json",
      "Description": "Database mappings to attach to db instance."
    },
    "ConnectionStringPrefix": {
      "Type": "String",
      "Description": "The prefix of the endpoint. \nOnly the prefix of the CurrentConnectionString parameter value can be modif
ied.\nThe prefix must be 8 to 64 characters in length and can contain letters, digits, and hyphens (-). ",
      "AllowedPattern": "[a-zA-Z0-9-]{8,64}"
    },
    "MultiAZ": {
      "Type": "Boolean",
      "Description": "Specifies if the database instance is a multiple Availability Zone deployment. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "Engine": {
      "Type": "String",
      "Description": "Database instance engine type. Support MySQL/SQLServer/PostgreSQL/PPAS/MariaDB now.",
      "AllowedValues": [
        "MySQL",
        "SQLServer",
        "PostgreSQL",
        "PPAS",
        "MariaDB"
      ]
    },
    "Tags": {
      "Type": "Json",
      "Description": "The tags of an instance.\nYou should input the information of the tag with the format of the Key-Value, s
uch as {\"key1\":\"value1\",\"key2\":\"value2\", ... \"key5\":\"value5\"}.\nAt most 5 tags can be specified.\nKey\nIt can be up
to 64 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCannot be a null string.\nValue
\nIt can be up to 128 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCan be a null s
tring."
    },
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "TargetDedicatedHostIdForMaster": {
      "Type": "String",
      "Description": "The ID of the host to which the instance belongs if you create a primary instance in a host group."
    },
    "EngineVersion": {
      "Type": "String",
      "Description": "Database instance version of the relative engine type.Support MySQL: 5.5/5.6/5.7/8.0;\nSQLServer: 2008r2/
2012/2012_ent_ha/2012_std_ha/2012_web/2016_ent_ha/2016_std_ha/2016_web/2017_std_ha/2017_ent;\nPostgreSQL: 9.4/10.0/11.0/12.0;\n
PPAS: 9.3/10.0;\nMariaDB: 10.3."
    },
    "DBInstanceClass": {
      "Type": "String",
      "Description": "Database instance type. Refer the RDS database instance type reference, such as 'rds.mys2.large', 'rds.ms
s1.large', 'rds.pg.s1.small' etc"
    },
```

```
    "ArchiveBackupKeepPolicy": {
      "Type": "String",
      "Description": "The period for which to retain archived backups. The number of archived backups that can \n be retained w
ithin the specified period is determined by the ArchiveBackupKeepCount parameter. \n Default value: 0. Valid values: \nByMonth
\n ByWeek \n KeepAll",
      "AllowedValues": [
        "ByMonth",
        "ByWeek",
        "KeepAll"
      ]
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch id of created instance. For VPC network, the property is required."
    },
    "BackupPolicyMode": {
      "Type": "String",
      "Description": "Backup type, \nDataBackupPolicy: data backup \nLogBackupPolicy: log backup",
      "AllowedValues": [
        "DataBackupPolicy",
        "LogBackupPolicy"
      ]
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. While choose by pay by month, it could be from 1 to 9. While choose pay by year, it
could be from 1 to 3.",
      "MinValue": 1,
      "MaxValue": 9,
      "Default": 1
    },
    "LocalLogRetentionHours": {
      "Type": "Number",
      "Description": "The number of hours for which to retain log backup files on the instance. \nValid values: 0 to 168. The v
alue 0 specifies not to retain log backup files on the instance. \nYou can retain the default value. Note You must specify this
parameter when the BackupPolicyMode \nparameter is set to LogBackupPolicy.",
      "MinValue": 0,
      "MaxValue": 168
    },
    "PayType": {
      "Type": "String",
      "Description": "The charge type of created instance.",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ],
      "Default": "Postpaid"
    },
    "HighSpaceUsageProtection": {
      "Type": "String",
      "Description": "Specifies whether to forcibly delete log backup files when the space usage of the \n instance exceeds 80%
or the remaining space is less than 5 GB. Valid values: \n Enable and Disable. You can retain the default value. Note You must
specify \n this parameter when the BackupPolicyMode parameter is set to LogBackupPolicy.",
      "AllowedValues": [
        "Enable",
        "Disable"
      ]
    },
    "RoleARN": {
      "Type": "String",
      "Description": "The Alibaba Cloud Resource Name (ARN) provided to the service account of the instance by your Alibaba Clo
ud account to connect to KMS. You can copy the ARN from the RAM console."
    },
    "MasterUserPassword": {
      "Type": "String",
      "Description": "The master password for the database instance. ",
      "MinLength": 8,
      "MaxLength": 32
```

```
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id of created database instance. For VPC network, the property is required."
    },
    "SSLSetting": {
      "Type": "String",
      "Description": "Secure Sockets Layer (SSL) link setting of the instance. Valid values:\nDisabled: Disable SSL\nEnabledFor
PublicConnection: Public connection address will be protected by the SSL certificate. It requires AllocatePublicConnection is t
rue.\nEnabledForInnerConnection: Private connection address will be protected by the SSL certificate.\nDefault value is Disable
d.",
      "AllowedValues": [
        "Disabled",
        "EnabledForPublicConnection",
        "EnabledForInnerConnection"
      ],
      "Default": "Disabled"
    },
    "MasterUsername": {
      "Type": "String",
      "Description": "The master user name for the database instance. "
    },
    "ConnectionMode": {
      "Type": "String",
      "Description": "Connection Mode for database instance,support 'Standard' and 'Safe' mode. Default is RDS system assigns.
"
    },
    "LocalLogRetentionSpace": {
      "Type": "Number",
      "Description": "The maximum percentage of space that is allowed to store log backup files on the instance. \n If the spac
e usage for log backup files exceeds this percentage, the system deletes earlier \n log backup files until the space usage fall
s below this percentage. Valid values:0 to 50. \n You can retain the default value. Note You must specify this parameter when t
he \n BackupPolicyMode parameter is set to LogBackupPolicy.",
      "MinValue": 0,
      "MaxValue": 50
    },
    "Category": {
      "Type": "String",
      "Description": "The edition of the instance. Valid values:\nBasic: specifies to use the Basic Edition.\nHighAvailability:
specifies to use the High-availability Edition.\nAlwaysOn: specifies to use the Cluster Edition.\nFinance: specifies to use the
Enterprise Edition.",
      "AllowedValues": [
        "Basic",
        "HighAvailability",
        "AlwaysOn",
        "Finance"
      ]
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "The private ip for created instance."
    },
    "TargetDedicatedHostIdForSlave": {
      "Type": "String",
      "Description": "The ID of the host to which the instance belongs if you create a secondary instance in a host group."
    },
    "DBInstanceNetType": {
      "Type": "String",
      "Description": "Database instance net type, default is Intranet.Internet for public access, Intranet for private access."
,
      "AllowedValues": [
        "Internet",
        "Intranet"
      ],
      "Default": "Intranet"
    },
    "ReleasedKeepPolicy": {
      "Type": "String",
      "Description": "The policy used to retain archived backups if the instance is released. Default value: None. \n Valid val
ues: \nLastest: Only the last archived backup is retained. \n All: All of the archived backups are retained.",
      "AllowedValues": [
        "Lastest",
        "All"
      ]
```

```
    },
    "DedicatedHostGroupId": {
      "Type": "String",
      "Description": "The ID of the host group to which the instance belongs if you create an instance in a host group."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable auto-renewal. Valid values: true and false. Note\n:Monthly subscription: The
auto-renewal cycle is one month.\nAnnual subscription: The auto-renewal cycle is one year.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "EncryptionKey": {
      "Type": "String",
      "Description": "The ID of the encryption key that is used to encrypt data on SSDs in the region. You can view the encrypt
ion key ID in the Key Management Service (KMS) console. You can also create an encryption key."
    },
    "PreferredBackupPeriod": {
      "Type": "CommaDelimitedList",
      "Description": "The backup period. Separate multiple values with commas (,). The default value is the original value. Val
id values:Monday Tuesday Wednesday Thursday Friday Saturday Sunday Note When the BackupPolicyMode parameter is set to DataBacku
pPolicy, this parameter is required."
    },
    "LogBackupLocalRetentionNumber": {
      "Type": "Number",
      "Description": "The number of log backup files that can be retained on the instance. \nDefault value: 60. Valid values: 6
to 100.",
      "MinValue": 6,
      "MaxValue": 100
    },
    "SlaveZoneIds": {
      "Type": "Json",
      "Description": "List of slave zone ids can specify slave zone ids when creating the high-availability or enterprise editi
on instance. Meanwhile, VSwitchId needs to pass in the corresponding vswitch id to the slave zone by order. For example, ZoneId
= \"zone-a\" and SlaveZoneIds = [\"zone-c\", \"zone-b\"], then the VSwitchId must be \"vsw-zone-a,vsw-zone-c,vsw-zone-b\". Of c
ourse, you can also choose automatic allocation, for example, ZoneId = \"zone-a\" and SlaveZoneIds = [\"Auto\", \"Auto\"], then
the VSwitchId must be \"vsw-zone-a,Auto,Auto\". The list contains up to 2 slave zone ids, separated by commas.",
      "MaxLength": 2
    },
    "SecurityIPList": {
      "Type": "String",
      "Description": "Security ip to access the database instance, combine with comma, 0.0.0.0/0 means no limitation."
    },
    "DBIsIgnoreCase": {
      "Type": "Number",
      "Description": "Specifies whether table names are case-sensitive. Valid values:\n1: Table names are not case-sensitive. T
his is the default value.\n0: Table names are case-sensitive."
    },
    "MaintainTime": {
      "Type": "String",
      "Description": "The period during which the maintenance performs. The format is HH:mmZ-HH:mmZ."
    },
    "DBParamGroupId": {
      "Type": "String",
      "Description": "The ID of the parameter template used by the instance."
    },
    "ZoneId": {
      "Type": "String",
      "Description": "selected zone to create database instance. You cannot set the ZoneId parameter if the MultiAZ parameter i
s set to true."
    },
    "TargetDedicatedHostIdForLog": {
      "Type": "String",
      "Description": "The ID of the host to which the instance belongs if you create a log instance in a host group."
    },
    "AllocatePublicConnection": {
      "Type": "Boolean",
      "Description": "If true, allocate public connection automate.",
      "AllowedValues": [
        "True",
        "true"
```

```
        "true",
        "False",
        "false"
      ]
    },
    "PreferredBackupTime": {
      "Type": "String",
      "Description": "The time when the backup task is performed. Format: yyyy-MM-ddZ-HH:mm:ssZ.Note When the BackupPolicyMode
parameter is set to DataBackupPolicy, this parameter is required."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "The ID of the ECS security groups. \nEach RDS instance can be associated with up to three ECS security gr
oups. \nYou must separate them with commas (,). \nTo delete an ECS Security group, leave this parameter empty. \n"
    },
    "DBInstanceStorageType": {
      "Type": "String",
      "Description": "The storage type of the instance. Valid values:\nlocal_ssd: specifies to use local SSDs. This is the reco
mmended storage type.\ncloud_ssd: specifies to use standard SSDs.\ncloud_essd: specifies to use enhanced SSDs."
    },
    "BackUpCategory": {
      "Type": "String",
      "Description": "Specifies whether to enable the second-level backup function. This function allows a backup \nto be compl
eted within seconds. Valid values: \nFlash: specifies to enable the second-level backup function. \n Standard: specifies to dis
able the second-level backup function.",
      "AllowedValues": [
        "Flash",
        "Standard"
      ]
    },
    "CompressType": {
      "Type": "Number",
      "Description": "The format used to compress backups. Valid values: \n 1: The zlib tool is used to compress backups into .
tar.gz files. \n 4: The QuickLZ tool is used to compress backups into .xb.gz files. \nThis compression format is supported only
when the instance runs MySQL 5.6 or 5.7. \nIt can be used to restore individual databases and tables. \n 8: The QuickLZ tool is
used to compress backups into .xb.gz files. \n This compression format is supported only when the instance runs MySQL 8.0. \nIt
cannot be used to restore individual databases or tables."
    },
    "LogBackupFrequency": {
      "Type": "String",
      "Description": "The frequency at which to back up logs. Valid values: \nThe value LogInterval specifies to back up logs e
very 30 minutes. \n The default value of this parameter is the same as the data backup frequency. \nNote The value LogInterval
is supported only when the instance runs SQL Server."
    },
    "ConnectionStringType": {
      "Type": "String",
      "Description": "The endpoint type of the instance, allow values: Inner, Public",
      "AllowedValues": [
        "Inner",
        "Public"
      ],
      "Default": "Inner"
    },
    "MasterUserType": {
      "Type": "String",
      "Description": "Privilege type of account.\n Normal: Common privilege. \n Super: High privilege. \nSysadmin: Super privil
eges (SA) (only supported by SQL Server)\nThe default value is Normal.",
      "AllowedValues": [
        "Normal",
        "Super",
        "Sysadmin"
      ],
      "Default": "Normal"
    },
    "EnableBackupLog": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable the log backup function. Valid values: \nTrue: specifies to enable the log ba
ckup function. \nFalse: specifies to disable the log backup function. \nNote You must specify this parameter when the BackupPol
icyMode parameter is set to LogBackupPolicy.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
```

```
      ]
    },
    "SQLCollectorStatus": {
      "Type": "String",
      "Description": "Specifies whether to enable or disable the SQL Explorer (SQL audit) feature. \nValid values:Enable | Disa
bled.",
      "AllowedValues": [
        "Enable",
        "Disabled"
      ]
    },
    "BackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The retention period of the data backup. Value range: 7 to 730. The default value is the original value.
Note When the BackupPolicyMode parameter is set to LogBackupPolicy, this parameter is required.",
      "Default": 7
    }
  },
  "Resources": {
    "DBInstance": {
      "Type": "ALIYUN::RDS::DBInstance",
      "Properties": {
        "PeriodType": {
          "Ref": "PeriodType"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "ArchiveBackupRetentionPeriod": {
          "Ref": "ArchiveBackupRetentionPeriod"
        },
        "DBTimeZone": {
          "Ref": "DBTimeZone"
        },
        "Port": {
          "Ref": "Port"
        },
        "ArchiveBackupKeepCount": {
          "Ref": "ArchiveBackupKeepCount"
        },
        "LogBackupRetentionPeriod": {
          "Ref": "LogBackupRetentionPeriod"
        },
        "DBInstanceStorage": {
          "Ref": "DBInstanceStorage"
        },
        "DBMappings": {
          "Ref": "DBMappings"
        },
        "ConnectionStringPrefix": {
          "Ref": "ConnectionStringPrefix"
        },
        "MultiAZ": {
          "Ref": "MultiAZ"
        },
        "Engine": {
          "Ref": "Engine"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "TargetDedicatedHostIdForMaster": {
          "Ref": "TargetDedicatedHostIdForMaster"
        },
        "EngineVersion": {
          "Ref": "EngineVersion"
        },
        "DBInstanceClass": {
          "Ref": "DBInstanceClass"
        },
        "ArchiveBackupKeepPolicy": {
          "Ref": "ArchiveBackupKeepPolicy"
```

```
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "BackupPolicyMode": {
          "Ref": "BackupPolicyMode"
        },
        "Period": {
          "Ref": "Period"
        },
        "LocalLogRetentionHours": {
          "Ref": "LocalLogRetentionHours"
        },
        "PayType": {
          "Ref": "PayType"
        },
        "HighSpaceUsageProtection": {
          "Ref": "HighSpaceUsageProtection"
        },
        "RoleARN": {
          "Ref": "RoleARN"
        },
        "MasterUserPassword": {
          "Ref": "MasterUserPassword"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "SSLSetting": {
          "Ref": "SSLSetting"
        },
        "MasterUsername": {
          "Ref": "MasterUsername"
        },
        "ConnectionMode": {
          "Ref": "ConnectionMode"
        },
        "LocalLogRetentionSpace": {
          "Ref": "LocalLogRetentionSpace"
        },
        "Category": {
          "Ref": "Category"
        },
        "PrivateIpAddress": {
          "Ref": "PrivateIpAddress"
        },
        "TargetDedicatedHostIdForSlave": {
          "Ref": "TargetDedicatedHostIdForSlave"
        },
        "DBInstanceNetType": {
          "Ref": "DBInstanceNetType"
        },
        "ReleasedKeepPolicy": {
          "Ref": "ReleasedKeepPolicy"
        },
        "DedicatedHostGroupId": {
          "Ref": "DedicatedHostGroupId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "EncryptionKey": {
          "Ref": "EncryptionKey"
        },
        "PreferredBackupPeriod": {
          "Ref": "PreferredBackupPeriod"
        },
        "LogBackupLocalRetentionNumber": {
          "Ref": "LogBackupLocalRetentionNumber"
        },
        "SlaveZoneIds": {
          "Ref": "SlaveZoneIds"
        },
        "SecurityIPList": {
```

```
          "Ref": "SecurityIPList"
        },
        "DBIsIgnoreCase": {
          "Ref": "DBIsIgnoreCase"
        },
        "MaintainTime": {
          "Ref": "MaintainTime"
        },
        "DBParamGroupId": {
          "Ref": "DBParamGroupId"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "TargetDedicatedHostIdForLog": {
          "Ref": "TargetDedicatedHostIdForLog"
        },
        "AllocatePublicConnection": {
          "Ref": "AllocatePublicConnection"
        },
        "PreferredBackupTime": {
          "Ref": "PreferredBackupTime"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "DBInstanceStorageType": {
          "Ref": "DBInstanceStorageType"
        },
        "BackUpCategory": {
          "Ref": "BackUpCategory"
        },
        "CompressType": {
          "Ref": "CompressType"
        },
        "LogBackupFrequency": {
          "Ref": "LogBackupFrequency"
        },
        "ConnectionStringType": {
          "Ref": "ConnectionStringType"
        },
        "MasterUserType": {
          "Ref": "MasterUserType"
        },
        "EnableBackupLog": {
          "Ref": "EnableBackupLog"
        },
        "SQLCollectorStatus": {
          "Ref": "SQLCollectorStatus"
        },
        "BackupRetentionPeriod": {
          "Ref": "BackupRetentionPeriod"
        }
      }
    }
  },
  "Outputs": {
    "InnerConnectionString": {
      "Description": "DB instance connection url by Intranet.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "InnerConnectionString"
        ]
      }
    },
    "DBInstanceId": {
      "Description": "The instance id of created database instance.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "DBInstanceId"
        ]
      }
```

```
    },
    "InnerIPAddress": {
      "Description": "IP Address for created DB instance of Intranet.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "InnerIPAddress"
        ]
      }
    },
    "PublicConnectionString": {
      "Description": "DB instance connection url by Internet.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "PublicConnectionString"
        ]
      }
    },
    "PublicIPAddress": {
      "Description": "IP Address for created DB instance of Internet.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "PublicIPAddress"
        ]
      }
    },
    "PublicPort": {
      "Description": "Internet port of created DB instance.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "PublicPort"
        ]
      }
    },
    "InnerPort": {
      "Description": "Intranet port of created DB instance.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstance",
          "InnerPort"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AllocatePublicConnection:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: If true, allocate public connection automate.
    Type: Boolean
  ArchiveBackupKeepCount:
    Description: "The number of archived backups that can be retained. Default value:\
      \ 1. Valid values: \nThe value of this parameter ranges from 1 to 31 when the\
      \ ArchiveBackupKeepPolicy \n parameter is set to ByMonth. \nThe value of this\
      \ parameter ranges from 1 to 7 when the ArchiveBackupKeepPolicy \n parameter\
      \ is set to ByWeek. \nNote You do not need to specify this parameter when the\
      \ ArchiveBackupKeepPolicy \nparameter is set to KeepAll."
    MaxValue: 31
    MinValue: 1
    Type: Number
  ArchiveBackupKeepPolicy:
    AllowedValues:
    - ByMonth
```

```
    - ByMonth
    - ByWeek
    - KeepAll
    Description: "The period for which to retain archived backups. The number of archived\
      \ backups that can \n be retained within the specified period is determined\
      \ by the ArchiveBackupKeepCount parameter. \n Default value: 0. Valid values:\
      \ \nByMonth \n ByWeek \n KeepAll"
    Type: String
  ArchiveBackupRetentionPeriod:
    Description: "The number of days for which to retain archived backups. \n The\
      \ default value 0 specifies not to enable the backup archiving function. Valid\
      \ values: 30 to 1095."
    MaxValue: 1095
    MinValue: 30
    Type: Number
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable auto-renewal. Valid values: true and
      false. Note
      :Monthly subscription: The auto-renewal cycle is one month.
      Annual subscription: The auto-renewal cycle is one year.'
    Type: Boolean
  BackUpCategory:
    AllowedValues:
    - Flash
    - Standard
    Description: "Specifies whether to enable the second-level backup function. This\
      \ function allows a backup \nto be completed within seconds. Valid values: \n\
      Flash: specifies to enable the second-level backup function. \n Standard: specifies\
      \ to disable the second-level backup function."
    Type: String
  BackupPolicyMode:
    AllowedValues:
    - DataBackupPolicy
    - LogBackupPolicy
    Description: "Backup type, \nDataBackupPolicy: data backup \nLogBackupPolicy:\
      \ log backup"
    Type: String
  BackupRetentionPeriod:
    Default: 7
    Description: 'The retention period of the data backup. Value range: 7 to 730.
      The default value is the original value. Note When the BackupPolicyMode parameter
      is set to LogBackupPolicy, this parameter is required.'
    Type: Number
  Category:
    AllowedValues:
    - Basic
    - HighAvailability
    - AlwaysOn
    - Finance
    Description: 'The edition of the instance. Valid values:
      Basic: specifies to use the Basic Edition.
      HighAvailability: specifies to use the High-availability Edition.
      AlwaysOn: specifies to use the Cluster Edition.
      Finance: specifies to use the Enterprise Edition.'
    Type: String
  CompressType:
    Description: "The format used to compress backups. Valid values: \n 1: The zlib\
      \ tool is used to compress backups into .tar.gz files. \n 4: The QuickLZ tool\
      \ is used to compress backups into .xb.gz files. \nThis compression format is\
      \ supported only when the instance runs MySQL 5.6 or 5.7. \nIt can be used to\
      \ restore individual databases and tables. \n 8: The QuickLZ tool is used to\
      \ compress backups into .xb.gz files. \n This compression format is supported\
      \ only when the instance runs MySQL 8.0. \nIt cannot be used to restore individual\
      \ databases or tables."
    Type: Number
  ConnectionMode:
    Description: 'Connection Mode for database instance,support ''Standard'' and ''Safe''
      mode. Default is RDS system assigns. '
    Type: String
  ConnectionStringPrefix:
```

```
    AllowedPattern: '[a-zA-Z0-9-]{8,64}'
    Description: "The prefix of the endpoint. \nOnly the prefix of the CurrentConnectionString\
      \ parameter value can be modified.\nThe prefix must be 8 to 64 characters in\
      \ length and can contain letters, digits, and hyphens (-). "
    Type: String
  ConnectionStringType:
    AllowedValues:
    - Inner
    - Public
    Default: Inner
    Description: 'The endpoint type of the instance, allow values: Inner, Public'
    Type: String
  DBInstanceClass:
    Description: Database instance type. Refer the RDS database instance type reference,
      such as 'rds.mys2.large', 'rds.mss1.large', 'rds.pg.s1.small' etc
    Type: String
  DBInstanceDescription:
    Description: Description of created database instance.
    Type: String
  DBInstanceNetType:
    AllowedValues:
    - Internet
    - Intranet
    Default: Intranet
    Description: Database instance net type, default is Intranet.Internet for public
      access, Intranet for private access.
    Type: String
  DBInstanceStorage:
    Description: Database instance storage size. mysql is [5,1000]. sql server 2008r2
      is [10,1000], sql server 2012/2012_web/2016-web is [20,1000]. PostgreSQL and
      PPAS is [5,2000]. Increased every 5 GB, Unit in GB
    Type: Number
  DBInstanceStorageType:
    Description: 'The storage type of the instance. Valid values:
      local_ssd: specifies to use local SSDs. This is the recommended storage type.
      cloud_ssd: specifies to use standard SSDs.
      cloud_essd: specifies to use enhanced SSDs.'
    Type: String
  DBIsIgnoreCase:
    Description: 'Specifies whether table names are case-sensitive. Valid values:
      1: Table names are not case-sensitive. This is the default value.
      0: Table names are case-sensitive.'
    Type: Number
  DBMappings:
    Description: Database mappings to attach to db instance.
    Type: Json
  DBParamGroupId:
    Description: The ID of the parameter template used by the instance.
    Type: String
  DBTimeZone:
    Description: 'The UTC time zone of the instance. Valid values: -12:00 to +12:00.
      The time zone must be an integer value such as +08:00. Values such as +08:30
      are not allowed.'
    Type: String
  DedicatedHostGroupId:
    Description: The ID of the host group to which the instance belongs if you create
      an instance in a host group.
    Type: String
  EnableBackupLog:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "Specifies whether to enable the log backup function. Valid values:\
      \ \nTrue: specifies to enable the log backup function. \nFalse: specifies to\
      \ disable the log backup function. \nNote You must specify this parameter when\
      \ the BackupPolicyMode parameter is set to LogBackupPolicy."
    Type: Boolean
  EncryptionKey:
    Description: The ID of the encryption key that is used to encrypt data on SSDs
      in the region. You can view the encryption key ID in the Key Management Service
      (KMS) console. You can also create an encryption key.
    Type: String
```

```
  Engine:
    AllowedValues:
    - MySQL
    - SQLServer
    - PostgreSQL
    - PPAS
    - MariaDB
    Description: Database instance engine type. Support MySQL/SQLServer/PostgreSQL/PPAS/MariaDB
      now.
    Type: String
  EngineVersion:
    Description: 'Database instance version of the relative engine type.Support MySQL:
      5.5/5.6/5.7/8.0;
      SQLServer: 2008r2/2012/2012_ent_ha/2012_std_ha/2012_web/2016_ent_ha/2016_std_ha/2016_web/2017_std_ha/2017_ent;
      PostgreSQL: 9.4/10.0/11.0/12.0;
      PPAS: 9.3/10.0;
      MariaDB: 10.3.'
    Type: String
  HighSpaceUsageProtection:
    AllowedValues:
    - Enable
    - Disable
    Description: "Specifies whether to forcibly delete log backup files when the space\
      \ usage of the \n instance exceeds 80% or the remaining space is less than 5\
      \ GB. Valid values: \n Enable and Disable. You can retain the default value.\
      \ Note You must specify \n this parameter when the BackupPolicyMode parameter\
      \ is set to LogBackupPolicy."
    Type: String
  LocalLogRetentionHours:
    Description: "The number of hours for which to retain log backup files on the\
      \ instance. \nValid values: 0 to 168. The value 0 specifies not to retain log\
      \ backup files on the instance. \nYou can retain the default value. Note You\
      \ must specify this parameter when the BackupPolicyMode \nparameter is set to\
      \ LogBackupPolicy."
    MaxValue: 168
    MinValue: 0
    Type: Number
  LocalLogRetentionSpace:
    Description: "The maximum percentage of space that is allowed to store log backup\
      \ files on the instance. \n If the space usage for log backup files exceeds\
      \ this percentage, the system deletes earlier \n log backup files until the\
      \ space usage falls below this percentage. Valid values:0 to 50. \n You can\
      \ retain the default value. Note You must specify this parameter when the \n\
      \ BackupPolicyMode parameter is set to LogBackupPolicy."
    MaxValue: 50
    MinValue: 0
    Type: Number
  LogBackupFrequency:
    Description: "The frequency at which to back up logs. Valid values: \nThe value\
      \ LogInterval specifies to back up logs every 30 minutes. \n The default value\
      \ of this parameter is the same as the data backup frequency. \nNote The value\
      \ LogInterval is supported only when the instance runs SQL Server."
    Type: String
  LogBackupLocalRetentionNumber:
    Description: "The number of log backup files that can be retained on the instance.\
      \ \nDefault value: 60. Valid values: 6 to 100."
    MaxValue: 100
    MinValue: 6
    Type: Number
  LogBackupRetentionPeriod:
    Description: "The number of days for which to retain log backup files. Valid values:\
      \ 7 to 730. The log backup \n retention period cannot be longer than the data\
      \ backup retention period. Note If you enable the log \n backup function, you\
      \ can specify the log backup retention period. This applies only when the \n\
      \ instance runs MySQL, PostgreSQL, or PPAS."
    MaxValue: 730
    MinValue: 7
    Type: Number
  MaintainTime:
    Description: The period during which the maintenance performs. The format is HH:mmZ-HH:mmZ.
    Type: String
  MasterUserPassword:
    Description: 'The master password for the database instance. '
    MaxLength: 32
```

```
    MinLength: 8
    Type: String
  MasterUserType:
    AllowedValues:
    - Normal
    - Super
    - Sysadmin
    Default: Normal
    Description: "Privilege type of account.\n Normal: Common privilege. \n Super:\
      \ High privilege. \nSysadmin: Super privileges (SA) (only supported by SQL Server)\n\
      The default value is Normal."
    Type: String
  MasterUsername:
    Description: 'The master user name for the database instance. '
    Type: String
  MultiAZ:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Specifies if the database instance is a multiple Availability Zone
      deployment. '
    Type: Boolean
  PayType:
    AllowedValues:
    - Subscription
    - PrePaid
    - PrePay
    - Prepaid
    - PayAsYouGo
    - PostPaid
    - PayOnDemand
    - Postpaid
    Default: Postpaid
    Description: The charge type of created instance.
    Type: String
  Period:
    Default: 1
    Description: Prepaid time period. While choose by pay by month, it could be from
      1 to 9. While choose pay by year, it could be from 1 to 3.
    MaxValue: 9
    MinValue: 1
    Type: Number
  PeriodType:
    AllowedValues:
    - Month
    - Year
    Default: Month
    Description: Charge period for created instances.
    Type: String
  Port:
    Description: The port of the database service.
    MaxValue: 65535
    MinValue: 1
    Type: Number
  PreferredBackupPeriod:
    Description: The backup period. Separate multiple values with commas (,). The
      default value is the original value. Valid values:Monday Tuesday Wednesday Thursday
      Friday Saturday Sunday Note When the BackupPolicyMode parameter is set to DataBackupPolicy,
      this parameter is required.
    Type: CommaDelimitedList
  PreferredBackupTime:
    Description: 'The time when the backup task is performed. Format: yyyy-MM-ddZ-HH:mm:ssZ.Note
      When the BackupPolicyMode parameter is set to DataBackupPolicy, this parameter
      is required.'
    Type: String
  PrivateIpAddress:
    Description: The private ip for created instance.
    Type: String
  ReleasedKeepPolicy:
    AllowedValues:
    - Lastest
```

```
    - All
    Description: "The policy used to retain archived backups if the instance is released.\
      \ Default value: None. \n Valid values: \nLastest: Only the last archived backup\
      \ is retained. \n All: All of the archived backups are retained."
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  RoleARN:
    Description: The Alibaba Cloud Resource Name (ARN) provided to the service account
      of the instance by your Alibaba Cloud account to connect to KMS. You can copy
      the ARN from the RAM console.
    Type: String
  SQLCollectorStatus:
    AllowedValues:
    - Enable
    - Disabled
    Description: "Specifies whether to enable or disable the SQL Explorer (SQL audit)\
      \ feature. \nValid values:Enable | Disabled."
    Type: String
  SSLSetting:
    AllowedValues:
    - Disabled
    - EnabledForPublicConnection
    - EnabledForInnerConnection
    Default: Disabled
    Description: 'Secure Sockets Layer (SSL) link setting of the instance. Valid values:
      Disabled: Disable SSL
      EnabledForPublicConnection: Public connection address will be protected by the
      SSL certificate. It requires AllocatePublicConnection is true.
      EnabledForInnerConnection: Private connection address will be protected by the
      SSL certificate.
      Default value is Disabled.'
    Type: String
  SecurityGroupId:
    Description: "The ID of the ECS security groups. \nEach RDS instance can be associated\
      \ with up to three ECS security groups. \nYou must separate them with commas\
      \ (,). \nTo delete an ECS Security group, leave this parameter empty. \n"
    Type: String
  SecurityIPList:
    Description: Security ip to access the database instance, combine with comma,
      0.0.0.0/0 means no limitation.
    Type: String
  SlaveZoneIds:
    Description: List of slave zone ids can specify slave zone ids when creating the
      high-availability or enterprise edition instance. Meanwhile, VSwitchId needs
      to pass in the corresponding vswitch id to the slave zone by order. For example,
      ZoneId = "zone-a" and SlaveZoneIds = ["zone-c", "zone-b"], then the VSwitchId
      must be "vsw-zone-a,vsw-zone-c,vsw-zone-b". Of course, you can also choose automatic
      allocation, for example, ZoneId = "zone-a" and SlaveZoneIds = ["Auto", "Auto"],
      then the VSwitchId must be "vsw-zone-a,Auto,Auto". The list contains up to 2
      slave zone ids, separated by commas.
    MaxLength: 2
    Type: Json
  Tags:
    Description: 'The tags of an instance.
      You should input the information of the tag with the format of the Key-Value,
      such as {"key1":"value1","key2":"value2", ... "key5":"value5"}.
      At most 5 tags can be specified.
      Key
      It can be up to 64 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Cannot be a null string.
      Value
      It can be up to 128 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Can be a null string.'
    Type: Json
  TargetDedicatedHostIdForLog:
    Description: The ID of the host to which the instance belongs if you create a
      log instance in a host group.
    Type: String
```

```
  TargetDedicatedHostIdForMaster:
    Description: The ID of the host to which the instance belongs if you create a
      primary instance in a host group.
    Type: String
  TargetDedicatedHostIdForSlave:
    Description: The ID of the host to which the instance belongs if you create a
      secondary instance in a host group.
    Type: String
  VSwitchId:
    Description: The vSwitch id of created instance. For VPC network, the property
      is required.
    Type: String
  VpcId:
    Description: The VPC id of created database instance. For VPC network, the property
      is required.
    Type: String
  ZoneId:
    Description: selected zone to create database instance. You cannot set the ZoneId
      parameter if the MultiAZ parameter is set to true.
    Type: String
Resources:
  DBInstance:
    Properties:
      AllocatePublicConnection:
        Ref: AllocatePublicConnection
      ArchiveBackupKeepCount:
        Ref: ArchiveBackupKeepCount
      ArchiveBackupKeepPolicy:
        Ref: ArchiveBackupKeepPolicy
      ArchiveBackupRetentionPeriod:
        Ref: ArchiveBackupRetentionPeriod
      AutoRenew:
        Ref: AutoRenew
      BackUpCategory:
        Ref: BackUpCategory
      BackupPolicyMode:
        Ref: BackupPolicyMode
      BackupRetentionPeriod:
        Ref: BackupRetentionPeriod
      Category:
        Ref: Category
      CompressType:
        Ref: CompressType
      ConnectionMode:
        Ref: ConnectionMode
      ConnectionStringPrefix:
        Ref: ConnectionStringPrefix
      ConnectionStringType:
        Ref: ConnectionStringType
      DBInstanceClass:
        Ref: DBInstanceClass
      DBInstanceDescription:
        Ref: DBInstanceDescription
      DBInstanceNetType:
        Ref: DBInstanceNetType
      DBInstanceStorage:
        Ref: DBInstanceStorage
      DBInstanceStorageType:
        Ref: DBInstanceStorageType
      DBIsIgnoreCase:
        Ref: DBIsIgnoreCase
      DBMappings:
        Ref: DBMappings
      DBParamGroupId:
        Ref: DBParamGroupId
      DBTimeZone:
        Ref: DBTimeZone
      DedicatedHostGroupId:
        Ref: DedicatedHostGroupId
      EnableBackupLog:
        Ref: EnableBackupLog
      EncryptionKey:
        Ref: EncryptionKey
      Engine:
        Ref: Engine
```

```
        Ref: Engine
      EngineVersion:
        Ref: EngineVersion
      HighSpaceUsageProtection:
        Ref: HighSpaceUsageProtection
      LocalLogRetentionHours:
        Ref: LocalLogRetentionHours
      LocalLogRetentionSpace:
        Ref: LocalLogRetentionSpace
      LogBackupFrequency:
        Ref: LogBackupFrequency
      LogBackupLocalRetentionNumber:
        Ref: LogBackupLocalRetentionNumber
      LogBackupRetentionPeriod:
        Ref: LogBackupRetentionPeriod
      MaintainTime:
        Ref: MaintainTime
      MasterUserPassword:
        Ref: MasterUserPassword
      MasterUserType:
        Ref: MasterUserType
      MasterUsername:
        Ref: MasterUsername
      MultiAZ:
        Ref: MultiAZ
      PayType:
        Ref: PayType
      Period:
        Ref: Period
      PeriodType:
        Ref: PeriodType
      Port:
        Ref: Port
      PreferredBackupPeriod:
        Ref: PreferredBackupPeriod
      PreferredBackupTime:
        Ref: PreferredBackupTime
      PrivateIpAddress:
        Ref: PrivateIpAddress
      ReleasedKeepPolicy:
        Ref: ReleasedKeepPolicy
      ResourceGroupId:
        Ref: ResourceGroupId
      RoleARN:
        Ref: RoleARN
      SQLCollectorStatus:
        Ref: SQLCollectorStatus
      SSLSetting:
        Ref: SSLSetting
      SecurityGroupId:
        Ref: SecurityGroupId
      SecurityIPList:
        Ref: SecurityIPList
      SlaveZoneIds:
        Ref: SlaveZoneIds
      Tags:
        Ref: Tags
      TargetDedicatedHostIdForLog:
        Ref: TargetDedicatedHostIdForLog
      TargetDedicatedHostIdForMaster:
        Ref: TargetDedicatedHostIdForMaster
      TargetDedicatedHostIdForSlave:
        Ref: TargetDedicatedHostIdForSlave
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::RDS::DBInstance
Outputs:
  DBInstanceId:
    Description: The instance id of created database instance.
    Value:
      Fn::GetAtt:
```

```
      Fn::GetAtt:
      - DBInstance
      - DBInstanceId
  InnerConnectionString:
    Description: DB instance connection url by Intranet.
    Value:
      Fn::GetAtt:
      - DBInstance
      - InnerConnectionString
  InnerIPAddress:
    Description: IP Address for created DB instance of Intranet.
    Value:
      Fn::GetAtt:
      - DBInstance
      - InnerIPAddress
  InnerPort:
    Description: Intranet port of created DB instance.
    Value:
      Fn::GetAtt:
      - DBInstance
      - InnerPort
  PublicConnectionString:
    Description: DB instance connection url by Internet.
    Value:
      Fn::GetAtt:
      - DBInstance
      - PublicConnectionString
  PublicIPAddress:
    Description: IP Address for created DB instance of Internet.
    Value:
      Fn::GetAtt:
      - DBInstance
      - PublicIPAddress
  PublicPort:
    Description: Internet port of created DB instance.
    Value:
      Fn::GetAtt:
      - DBInstance
      - PublicPort
```

To view more examples, visit DBInstance.json and DBInstance.yml. In the examples, the ALIYUN::RDS::DBInstance, ALIYUN::RDS::Account, ALIYUN::RDS::AccountPrivilege, ALIYUN::RDS::DBInstanceParameterGroup, ALIYUN::RDS::DBInstanceSecurityIps, ALIYUN::RDS::ReadOnlyDBInstance, and ALIYUN::RDS::Database resource types are involved.

57.6. ALIYUN::RDS::DBInstanceParameterGroup

ALIYUN::RDS::DBInstanceParameterGroup is used to modify the parameters of an ApsaraDB RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::DBInstanceParameterGroup",
  "Properties": {
    "Forcerestart": String,
    "DBInstanceId": String,
    "Parameters": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBInstanceId	String	Yes	No	The ID of the instance.	N/A
Parameters	List	Yes	Yes	The parameters of the instance.	For more information, see Parameters properties.

Property	Type	Required	Editable	Description	Constraint
Forcerestart	String	No	Yes	Specifies whether to forcibly restart the instance.	Valid values: • true: The system forcibly restarts the instance. • false: The system does not forcibly restart the instance. This is the default value.

Parameters syntax

```
"Parameters": [
  {
    "Key": String,
    "Value": String
  }
]
```

Parameters properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The name of the parameter.	N/A
Value	String	Yes	No	The value of the parameter.	N/A

Response parameters

Fn::GetAtt

N/A

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Parameters": {
      "Type": "Json",
      "Description": "Parameters to update for selected database instance.",
      "Default": {"delayed_insert_timeout":"600","max_length_for_sort_data":"2048"}
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "Database InstanceId to update properties."
      "Default": rm-uf6wjk5xxxxxxx
    },
    "Forcerestart": {
      "Type": "String",
      "Description": "whether restart database instance.",
      "AllowedValues": [
        "true",
        "false"
      ],
      "Default": "false"
    }
  },
  "Resources": {
    "DBInstanceParameterGroup": {
      "Type": "ALIYUN::RDS::DBInstanceParameterGroup",
      "Properties": {
        "Parameters": {
          "Ref": "Parameters"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "Forcerestart": {
          "Ref": "Forcerestart"
        }
      }
    }
  }
}
```

57.7. ALIYUN::RDS::DBInstanceSecurityIps

ALIYUN::RDS::DBInstanceSecurityIps is used to modify an IP address whitelist of an ApsaraDB for RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::DBInstanceSecurityIps",
  "Properties": {
    "DBInstanceId": String,
    "DBInstanceIPArrayName": String,
    "DBInstanceIPArrayAttribute": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DBInstanceId	String	Yes	No	The ID of the instance.	None
DBInstanceIPArrayAttribute	String	Yes	Yes	The attribute of the IP address whitelist.	Whitelists that have the "hidden" attribute are not displayed in the console.

Property	Type	Required	Editable	Description	Constraint
DBInstanceIPArrayName	String	No	No	The name of the IP address whitelist.	The name can only contain lowercase letters and underscores (_). Default value: Default.

Response parameters

Fn::GetAtt

SecurityIps: the IP address whitelist after the modification.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DBInstanceSecurityIps": {
      "Type": "ALIYUN::RDS::DBInstanceSecurityIps",
      "Properties": {
        "DBInstanceIPArrayName": {
          "Ref": "DBInstanceIPArrayName"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "DBInstanceIPArrayAttribute": {
          "Ref": "DBInstanceIPArrayAttribute"
        }
      }
    }
  },
  "Parameters": {
    "DBInstanceIPArrayName": {
      "Type": "String",
      "Description": "Group name of the security ips, only support lower characters and '_'. Advice use a new group name avoid
effect your database system. If the properties is not specified, it will set to default group, please be careful."
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "Database instance id to update security ips."
    },
    "DBInstanceIPArrayAttribute": {
      "Type": "String",
      "Description": "Security ips to add or remove."
    }
  },
  "Outputs": {
    "SecurityIps": {
      "Description": "The security ips of selected database instance.",
      "Value": {
        "Fn::GetAtt": [
          "DBInstanceSecurityIps",
          "SecurityIps"
        ]
      }
    }
  }
}
```

57.8. ALIYUN::RDS::DBInstanceClone

ALIYUN::RDS::DBInstanceClone is used to restore historical data of an instance to a new instance. The new instance is called the cloned instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::DBInstanceClone",
  "Properties": {
    "PeriodType": String,
    "Category": String,
    "PrivateIpAddress": String,
    "DedicatedHostGroupId": String,
    "BackupId": String,
    "RestoreTime": String,
    "InstanceNetworkType": String,
    "DbNames": String,
    "Port": Integer",
    "ConnectionStringPrefix": String,
    "ConnectionStringType": String,
    "TimeoutInMinutes": Integer,
    "PreferredBackupPeriod": List,
    "DBInstanceId": String,
    "SecurityIPList": String,
    "DBInstanceStorage": Integer,
    "BackupType": String,
    "DBMappings": List,
    "MaintainTime": String,
    "Tags": Map,
    "DBInstanceDescription": String,
    "ZoneId": String,
    "SlaveZoneIds": List,
    "DBInstanceClass": String,
    "AllocatePublicConnection": Boolean,
    "SecurityGroupId": String,
    "PreferredBackupTime": String,
    "VSwitchId": String,
    "Period": Integer,
    "PayType": String,
    "DBInstanceStorageType": String,
    "RestoreTable": String,
    "MasterUserPassword": String,
    "MasterUserType": String,
    "VpcId": String,
    "SSLSetting": String,
    "MasterUsername": String,
    "SQLCollectorStatus": String,
    "BackupRetentionPeriod": Number,
    "TableMeta": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PeriodType	String	No	No	The unit of the subscription period.	Valid values: • Month • Year This parameter is required if the PayType parameter is set to Prepaid.
Category	String	No	No	The edition of the instance.	Valid values: • Basic: Basic Edition • HighAvailability: High-availability Edition • AlwaysOn: Cluster Edition
PrivateIpAddress	String	No	No	The internal IP address of the cloned instance.	The internal IP address must fall within the CIDR block that is supported by the specified vSwitch. The system allocates an internal IP address based on the values of the VpcId and VSwitchId parameters.

Property	Type	Required	Editable	Description	Constraint
ConnectionStringPrefix	String	No	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length, and can contain letters, digits, and hyphens (-).
ConnectionStringType	String	No	Yes	The type of the endpoint.	Valid values: • Inner: VPC • Public: Internet
TimeoutInMinutes	Integer	No	No	The timeout period.	Default value: 120. Valid values: • 30 • 60 • 90 • 120 • 150 • 180 • 210 • 240 • 270 • 300 • 330 • 360 Unit: minutes.
Port	Integer	No	Yes	The number of the port that is used to access the cloned instance.	Valid values: 1 to 65535.
DedicatedHostGroupId	String	No	No	The ID of the dedicated cluster in which to create the instance.	None
BackupId	String	No	No	The ID of the backup set.	You must specify at least one of the BackupId and RestoreTime parameters.
RestoreTime	String	No	No	The point in time to which you want to restore the instance. The point in time you specify must be within the backup retention period.	Specify the time in the `yyyy-MM-ddTHH:mm:ssZ` format. The time must be in UTC. You must specify at least one of the BackupId and RestoreTime parameters.
InstanceNetworkType	String	No	No	The network type of the cloned instance.	Valid values: • VPC • Classic **Note** The default value is the network type of the source instance.
DbNames	String	No	No	The names of the databases.	None

Property	Type	Required	Editable	Description	Constraint
PreferredBackupPeriod	List	No	No	The backup cycle.	Valid values: • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday
DBInstanceId	String	Yes	No	The ID of the source instance.	None
SecurityIPList	String	No	Yes	The whitelist of IP addresses that are allowed to access all databases in the cloned instance.	Separate multiple IP addresses with commas (,). Each IP address in the whitelist must be unique. You can add up to 1,000 IP addresses to each whitelist. Supported formats: • Standard IP address format, such as 10.23.12.24. • Standard CIDR block format, such as 10.23.12.24/24. The value 24 indicates that the prefix of the CIDR block is 24-bit long. You can replace 24 with a value within the range of 1 to 32.
DBInstanceStorage	Integer	No	Yes	The storage capacity of the cloned instance.	Unit: GB. The value must be in 5 GB increments. For more information, see Primary ApsaraDB RDS instance types. **Note** The default value is the storage capacity of the source instance.
BackupType	String	No	No	The type of the backup.	Valid values: • FullBackup • IncrementalBackup
DBMappings	List	No	No	The databases in the cloned instance.	For more information, see DBMappings properties.
MaintainTime	String	No	No	The maintenance window of the cloned instance.	Specify the maintenance window in the `HH:mmZ-HH:mmZ` format. The time must be in UTC.
Tags	Map	No	Yes	The tags of the cloned instance.	None
DBInstanceDescription	String	No	No	The description of the cloned instance.	The description must be 2 to 256 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
ZoneId	String	No	No	The zone ID of the cloned instance.	The default value is the ID of the zone to which the source instance belongs.

Property	Type	Required	Editable	Description	Constraint
SlaveZoneIds	List	No	No	The list of secondary zone IDs that you need to specify when you create a High-availability or Enterprise Edition instance.	A maximum of two secondary zones can be specified. For example, you can set this parameter to `["zone-b"]` or `["zone-b", "zone-c"]`. You must specify a vSwitch in each primary or secondary zone. For example, if the ZoneId parameter is set to `"zone-a"` and the SlaveZoneIds parameter is set to `["zone-c", "zone-b"]`, you must set the VSwitchID value in the following format: `"vsw-zone-a,vsw-zone-c,vsw-zone-b"` If you want the system to select a secondary zone, set this parameter to `["Auto"]` or `["Auto", "Auto"]`. In this case, if you specify a vSwitch for the primary zone, the system creates a vSwitch in the corresponding secondary zone.
DBInstanceClass	String	No	Yes	The instance type.	For more information, see Primary ApsaraDB RDS instance types. **Note** The default value is the instance type of the source instance.
AllocatePublicConnection	Boolean	No	No	Specifies whether to apply for a public endpoint for the cloned instance.	Valid values: • true • false
SecurityGroupId	String	No	Yes	The ID of the associated security group.	Each ApsaraDB RDS instance can be associated with up to three security groups. Separate multiple security groups with commas (,). To delete all security groups, set this parameter to an empty string.
PreferredBackupTime	String	No	No	The backup window.	Specify the window in the `HH:mmZ-HH:mmZ` format. Valid values: 00:00Z-01:00Z, 01:00Z-02:00Z, 02:00Z-03:00Z, 03:00Z-04:00Z, 04:00Z-05:00Z, 05:00Z-06:00Z, 06:00Z-07:00Z, 07:00Z-08:00Z, 08:00Z-09:00Z, 09:00Z-10:00Z, 10:00Z-11:00Z, 11:00Z-12:00Z, 12:00Z-13:00Z, 13:00Z-14:00Z, 14:00Z-15:00Z, 15:00Z-16:00Z, 16:00Z-17:00Z, 17:00Z-18:00Z, 18:00Z-19:00Z, 19:00Z-20:00Z, 20:00Z-21:00Z, 21:00Z-22:00Z, 22:00Z-23:00Z, and 23:00Z-24:00Z.
VSwitchId	String	No	No	The ID of the vSwitch.	None

Property	Type	Required	Editable	Description	Constraint
Period	Integer	No	No	The subscription period of the cloned instance.	• Valid values when PeriodType is set to Year: 1, 2, and 3. • Valid values when PeriodType is set to Month: 1, 2, 3, 4, 5, 6, 7, 8, and 9.
PayType	String	Yes	No	The billing method of the cloned instance.	Valid values: • Postpaid: pay-as-you-go • Prepaid: subscription
DBInstanceStorageType	String	No	No	The storage type of the cloned instance.	Valid values: • local_ssd or ephemeral_ssd: local SSD • cloud_ssd: standard SSD • cloud_essd: enhanced SSD (ESSD).
RestoreTable	String	No	No	Specifies whether to restore databases and tables.	If this parameter is set to 1, databases and tables are restored. Otherwise, databases and tables are not restored.
MasterUserPassword	String	No	No	The password of the database account.	The password must be 8 to 32 characters in length, and can contain letters, digits, and underscores (_).
MasterUserType	String	No	No	The type of the database account.	Default value: Normal. Valid values: • Normal: standard account • Super: privileged account • Sysadmin: administrator account Note This parameter can be set to Sysadmin only when Engine is set to SQLServer.
VpcId	String	No	No	The ID of the VPC.	None
SSLSetting	String	No	No	The settings of the Secure Sockets Layer (SSL) connection for the cloned instance.	Default value: Disabled. Valid values: • Disabled: The SSL connection is disabled. • EnabledForPublicConnection: The SSL connection is enabled. SSL certificates are used to protect internal endpoints. Note If you set this parameter to EnabledForPublicConnection, you must set the AllocatePublicConnection parameter to true. • EnabledForInnerConnection: The SSL connection is enabled. SSL certificates are used to protect internal endpoints.
MasterUsername	String	No	No	The name of the database account.	The name must be unique. The name can be up to 16 characters in length, and can contain letters, digits, and underscores (_). It must start with a letter.

Property	Type	Required	Editable	Description	Constraint
SQLCollectorStatus	String	No	Yes	Enables or disables the SQL Explorer (SQL audit) feature for the cloned instance.	Valid values: • Enable • Disabled
BackupRetentionPeriod	Number	No	No	The number of days for which backup data can be retained.	Valid values: 7 to 30. Unit: days. Default value: 7.
TableMeta	List	No	No	The information about the databases and tables that you want to restore.	For more information, see TableMeta properties.

DBMappings syntax

```
"DBMappings": [
  {
    "CharacterSetName": String,
    "DBDescription": String,
    "DBName": String
  }
]
```

DBMappings properties

Property	Type	Required	Editable	Description	Constraint

CharacterSetName	String	Yes	No	The character set.	• Valid values when Engine is set to MySQL:
					  ○ utf8
					  ○ gbk
					  ○ latin1
					  ○ utf8mb4 (applicable to versions 5.5 and 5.6)
					• Valid values when Engine is set to SQLServer:
					  ○ Chinese_PRC_CI_AS
					  ○ Chinese_PRC_CS_AS
					  ○ SQL_Latin1_General_CP1_CI_AS
					  ○ SQL_Latin1_General_CP1_CS_AS
					  ○ Chinese_PRC_BIN

DBName	String	Yes	No	The name of the database.	The name must be unique. The name can be up to 64 characters in length, and can contain letters, digits, and underscores (_). It must start with a letter.
DBDescription	String	No	No	The description of the database.	The description must be 2 to 256 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.

TableMeta syntax

```
"TableMeta": [
  {
    "Type": String,
    "Name": String,
    "NewName": String,
    "Tables": List
  }
]
```

TableMeta properties

Property	Type	Required	Editable	Description	Constraint
Type	String	No	No	The type of the object.	Set the value to db.
Name	String	No	No	The name of the database.	None
NewName	String	No	No	The new name of the database.	None
Tables	List	No	No	The restored tables.	For more information, see Tables properties.

Tables syntax

```
"Tables": [
  {
    "Type": String,
    "Name": String,
    "NewName": String
  }
]
```

Tables properties

Property	Type	Required	Editable	Description	Constraint
Type	String	No	No	The type of the object.	Set the value to table.
Name	String	No	No	The name of the table in the database.	None
NewName	String	No	No	The new name of the table.	None

Response parameters

Fn::GetAtt

- InnerConnectionString: the internal endpoint of the instance.
- DBInstanceId: the ID of the instance.
- InnerIPAddress: the internal IP address of the instance.
- PublicConnectionString: the public endpoint of the instance.
- PublicIPAddress: the public IP address of the instance.
- PublicPort: the public port of the instance.
- InnerPort: the internal port of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances.",
```

```
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "Category": {
      "Type": "String",
      "Description": "The edition of the instance. Valid values:\nBasic: specifies to use the Basic Edition.\nHighAvailability:
specifies to use the High-availability Edition.\nAlwaysOn: specifies to use the Cluster Edition.\nFinance: specifies to use the
Enterprise Edition.",
      "AllowedValues": [
        "Basic",
        "HighAvailability",
        "AlwaysOn",
        "Finance"
      ]
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "The private ip for created instance."
    },
    "DedicatedHostGroupId": {
      "Type": "String",
      "Description": "The ID of the host group to which the instance belongs if you create an instance in a host group."
    },
    "Port": {
      "Type": "Number",
      "Description": "The port of the database service.",
      "MinValue": 1,
      "MaxValue": 65535
    },
    "BackupId": {
      "Type": "String",
      "Description": "The ID of the backup set that you want to use. \nYou can call the DescribeBackups operation to query the
most recent backup set list. \nNote You must specify at least one of the BackupId and RestoreTime parameters."
    },
    "InstanceNetworkType": {
      "Type": "String",
      "Description": "The network type of the new instance. Valid values: \n- VPC \n- Classic \nThe default value is the networ
k type of the original instance."
    },
    "RestoreTime": {
      "Type": "String",
      "Description": "The point in time to which you want to restore the data of the original instance. \nThe point in time mus
t fall within the specified log backup retention period. \nThe time follows the ISO 8601 standard in the yyyy-MM-ddTHH:mm:ssZ f
ormat. \nThe time must be in UTC."
    },
    "PreferredBackupPeriod": {
      "Type": "CommaDelimitedList",
      "Description": "The backup period. Separate multiple values with commas (,). The default value is the original value. Val
id values:Monday Tuesday Wednesday Thursday Friday Saturday Sunday Note When the BackupPolicyMode parameter is set to DataBacku
pPolicy, this parameter is required."
    },
    "DbNames": {
      "Type": "String",
      "Description": "The names of the databases that you want to create on the new instance."
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "Instance id"
    },
    "SecurityIPList": {
      "Type": "String",
      "Description": "Security ip to access the database instance, combine with comma, 0.0.0.0/0 means no limitation."
    },
    "DBInstanceStorage": {
      "Type": "Number",
      "Description": "Database instance storage size. mysql is [5,1000]. sql server 2008r2 is [10,1000], sql server 2012/2012_w
eb/2016-web is [20,1000]. PostgreSQL and PPAS is [5,2000]. Increased every 5 GB, Unit in GB"
    },
    "BackupType": {
      "Type": "String",
      "Description": "The type of backup used by the new instance. Valid values: \n - FullBackup: full backup \n - IncrementalB
```

```
ackup: incremental backup",
      "AllowedValues": [
        "FullBackup",
        "IncrementalBackup"
      ]
    },
    "DBMappings": {
      "Type": "Json",
      "Description": "Database mappings to attach to db instance."
    },
    "ConnectionStringPrefix": {
      "Type": "String",
      "Description": "The prefix of the endpoint. \nOnly the prefix of the CurrentConnectionString parameter value can be modif
ied.\nThe prefix must be 8 to 64 characters in length and can contain letters, digits, and hyphens (-). ",
      "AllowedPattern": "[a-zA-Z0-9-]{8,64}"
    },
    "MaintainTime": {
      "Type": "String",
      "Description": "The period during which the maintenance performs. The format is HH:mmZ-HH:mmZ."
    },
    "Tags": {
      "Type": "Json",
      "Description": "The tags of an instance.\nYou should input the information of the tag with the format of the Key-Value, s
uch as {\"key1\":\"value1\",\"key2\":\"value2\", ... \"key5\":\"value5\"}.\nAt most 5 tags can be specified.\nKey\nIt can be up
to 64 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCannot be a null string.\nValue
\nIt can be up to 128 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCan be a null s
tring."
    },
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "ZoneId": {
      "Type": "String",
      "Description": "selected zone to create database instance. You cannot set the ZoneId parameter if the MultiAZ parameter i
s set to true."
    },
    "SlaveZoneIds": {
      "Type": "Json",
      "Description": "List of slave zone ids can specify slave zone ids when creating the high-availability or enterprise editi
on instance. Meanwhile, VSwitchId needs to pass in the corresponding vswitch id to the slave zone by order. For example, ZoneId
= \"zone-a\" and SlaveZoneIds = [\"zone-c\", \"zone-b\"], then the VSwitchId must be \"vsw-zone-a,vsw-zone-c,vsw-zone-b\". Of c
ourse, you can also choose automatic allocation, for example, ZoneId = \"zone-a\" and SlaveZoneIds = [\"Auto\", \"Auto\"], then
the VSwitchId must be \"vsw-zone-a,Auto,Auto\". The list contains up to 2 slave zone ids, separated by commas.",
      "MaxLength": 2
    },
    "DBInstanceClass": {
      "Type": "String",
      "Description": "Database instance type. Refer the RDS database instance type reference, such as 'rds.mys2.large', 'rds.ms
s1.large', 'rds.pg.s1.small' etc"
    },
    "AllocatePublicConnection": {
      "Type": "Boolean",
      "Description": "If true, allocate public connection automate.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PreferredBackupTime": {
      "Type": "String",
      "Description": "The time when the backup task is performed. Format: yyyy-MM-ddZ-HH:mm:ssZ.Note When the BackupPolicyMode
parameter is set to DataBackupPolicy, this parameter is required."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch id of created instance. For VPC network, the property is required."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "The ID of the ECS security groups. \nEach RDS instance can be associated with up to three ECS security gr
oups. \nYou must separate them with commas (,). \nTo delete an ECS Security group, leave this parameter empty. \n"
```

```
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. While choose by pay by month, it could be from 1 to 9. While choose pay by year, it
could be from 1 to 3.",
      "MinValue": 1,
      "MaxValue": 9,
      "Default": 1
    },
    "PayType": {
      "Type": "String",
      "Description": "The charge type of created instance.",
      "AllowedValues": [
        "Prepaid",
        "Postpaid"
      ],
      "Default": "Postpaid"
    },
    "DBInstanceStorageType": {
      "Type": "String",
      "Description": "The storage type of the instance. Valid values:\nlocal_ssd: specifies to use local SSDs. This is the reco
mmended storage type.\ncloud_ssd: specifies to use standard SSDs.\ncloud_essd: specifies to use enhanced SSDs."
    },
    "ConnectionStringType": {
      "Type": "String",
      "Description": "The endpoint type of the instance, allow values: Inner, Public",
      "AllowedValues": [
        "Inner",
        "Public"
      ],
      "Default": "Inner"
    },
    "RestoreTable": {
      "Type": "String",
      "Description": "Specifies whether to restore specific databases and tables. \nThe value 1 specifies to restore specific d
atabases and tables. \nIf you do not want to restore specific databases or tables, you can choose not to specify this parameter
."
    },
    "MasterUserPassword": {
      "Type": "String",
      "Description": "The master password for the database instance. ",
      "MinLength": 8,
      "MaxLength": 32
    },
    "MasterUserType": {
      "Type": "String",
      "Description": "Privilege type of account.\n Normal: Common privilege. \n Super: High privilege. \nSysadmin: Super privil
eges (SA) (only supported by SQL Server)\nThe default value is Normal.",
      "AllowedValues": [
        "Normal",
        "Super",
        "Sysadmin"
      ],
      "Default": "Normal"
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id of created database instance. For VPC network, the property is required."
    },
    "SSLSetting": {
      "Type": "String",
      "Description": "Secure Sockets Layer (SSL) link setting of the instance. Valid values:\nDisabled: Disable SSL\nEnabledFor
PublicConnection: Public connection address will be protected by the SSL certificate. It requires AllocatePublicConnection is t
rue.\nEnabledForInnerConnection: Private connection address will be protected by the SSL certificate.\nDefault value is Disable
d.",
      "AllowedValues": [
        "Disabled",
        "EnabledForPublicConnection",
        "EnabledForInnerConnection"
      ],
      "Default": "Disabled"
    },
    "MasterUsername": {
      "Type": "String",
```

```
      "Description": "The master user name for the database instance. "
    },
    "SQLCollectorStatus": {
      "Type": "String",
      "Description": "Specifies whether to enable or disable the SQL Explorer (SQL audit) feature. \nValid values:Enable | Disa
bled.",
      "AllowedValues": [
        "Enable",
        "Disabled"
      ]
    },
    "BackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The retention period of the data backup. Value range: 7 to 730. The default value is the original value.
Note When the BackupPolicyMode parameter is set to LogBackupPolicy, this parameter is required.",
      "Default": 7
    },
    "TableMeta": {
      "Type": "Json",
      "Description": "The information about the databases and tables that you want to restore."
    },
    "TimeoutInMinutes": {
      "Type": "Number",
      "Description": "The timeout period for creating the clone instance resource. Unit: Minute. Default: 120.",
      "AllowedValues": [
        30,
        60,
        90,
        120,
        150,
        180,
        210,
        240,
        270,
        300,
        330,
        360
      ],
      "Default": 120
    }
  },
  "Resources": {
    "DbInstanceClone": {
      "Type": "ALIYUN::RDS::DBInstanceClone",
      "Properties": {
        "PeriodType": {
          "Ref": "PeriodType"
        },
        "Category": {
          "Ref": "Category"
        },
        "PrivateIpAddress": {
          "Ref": "PrivateIpAddress"
        },
        "DedicatedHostGroupId": {
          "Ref": "DedicatedHostGroupId"
        },
        "Port": {
          "Ref": "Port"
        },
        "BackupId": {
          "Ref": "BackupId"
        },
        "InstanceNetworkType": {
          "Ref": "InstanceNetworkType"
        },
        "RestoreTime": {
          "Ref": "RestoreTime"
        },
        "PreferredBackupPeriod": {
          "Ref": "PreferredBackupPeriod"
        },
        "DbNames": {
          "Ref": "DbNames"
```

```
        },
        "SlaveZoneIds": {
          "Ref": "SlaveZoneIds"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "SecurityIPList": {
          "Ref": "SecurityIPList"
        },
        "DBInstanceStorage": {
          "Ref": "DBInstanceStorage"
        },
        "BackupType": {
          "Ref": "BackupType"
        },
        "DBMappings": {
          "Ref": "DBMappings"
        },
        "ConnectionStringPrefix": {
          "Ref": "ConnectionStringPrefix"
        },
        "MaintainTime": {
          "Ref": "MaintainTime"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "DBInstanceClass": {
          "Ref": "DBInstanceClass"
        },
        "AllocatePublicConnection": {
          "Ref": "AllocatePublicConnection"
        },
        "PreferredBackupTime": {
          "Ref": "PreferredBackupTime"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "Period": {
          "Ref": "Period"
        },
        "PayType": {
          "Ref": "PayType"
        },
        "DBInstanceStorageType": {
          "Ref": "DBInstanceStorageType"
        },
        "ConnectionStringType": {
          "Ref": "ConnectionStringType"
        },
        "RestoreTable": {
          "Ref": "RestoreTable"
        },
        "MasterUserPassword": {
          "Ref": "MasterUserPassword"
        },
        "MasterUserType": {
          "Ref": "MasterUserType"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "SSLSetting": {
          "Ref": "SSLSetting"
```

```
        "Ref": "SubSetting"
        },
        "MasterUsername": {
          "Ref": "MasterUsername"
        },
        "SQLCollectorStatus": {
          "Ref": "SQLCollectorStatus"
        },
        "BackupRetentionPeriod": {
          "Ref": "BackupRetentionPeriod"
        },
        "TableMeta": {
          "Ref": "TableMeta"
        },
        "TimeoutInMinutes": {
          "Ref": "TimeoutInMinutes"
        }
      }
    }
  },
  "Outputs": {
    "InnerConnectionString": {
      "Description": "DB instance connection url by Intranet.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "InnerConnectionString"
        ]
      }
    },
    "DBInstanceId": {
      "Description": "The instance id of created database instance.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "DBInstanceId"
        ]
      }
    },
    "InnerIPAddress": {
      "Description": "IP Address for created DB instance of Intranet.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "InnerIPAddress"
        ]
      }
    },
    "PublicConnectionString": {
      "Description": "DB instance connection url by Internet.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "PublicConnectionString"
        ]
      }
    },
    "PublicIPAddress": {
      "Description": "IP Address for created DB instance of Internet.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "PublicIPAddress"
        ]
      }
    },
    "PublicPort": {
      "Description": "Internet port of created DB instance.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "PublicPort"
        ]
      }
    },
```

```
    "InnerPort": {
      "Description": "Intranet port of created DB instance.",
      "Value": {
        "Fn::GetAtt": [
          "DbInstanceClone",
          "InnerPort"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PeriodType:
    Type: String
    Description: Charge period for created instances.
    AllowedValues:
      - Month
      - Year
    Default: Month
  Category:
    Type: String
    Description: |-
      The edition of the instance. Valid values:
      Basic: specifies to use the Basic Edition.
      HighAvailability: specifies to use the High-availability Edition.
      AlwaysOn: specifies to use the Cluster Edition.
      Finance: specifies to use the Enterprise Edition.
    AllowedValues:
      - Basic
      - HighAvailability
      - AlwaysOn
      - Finance
  PrivateIpAddress:
    Type: String
    Description: The private ip for created instance.
  DedicatedHostGroupId:
    Type: String
    Description: >-
      The ID of the host group to which the instance belongs if you create an
      instance in a host group.
  Port:
    Type: Number
    Description: The port of the database service.
    MinValue: 1
    MaxValue: 65535
  BackupId:
    Type: String
    Description: >-
      The ID of the backup set that you want to use.
      You can call the DescribeBackups operation to query the most recent backup
      set list.
      Note You must specify at least one of the BackupId and RestoreTime
      parameters.
  InstanceNetworkType:
    Type: String
    Description: |-
      The network type of the new instance. Valid values:
      - VPC
      - Classic
      The default value is the network type of the original instance.
  RestoreTime:
    Type: String
    Description: >-
      The point in time to which you want to restore the data of the original
      instance.
      The point in time must fall within the specified log backup retention
      period.
      The time follows the ISO 8601 standard in the yyyy-MM-ddTHH:mm:ssZ
      format.
```

```
    The time must be in UTC.
  PreferredBackupPeriod:
    Type: CommaDelimitedList
    Description: >-
      The backup period. Separate multiple values with commas (,). The default
      value is the original value. Valid values:Monday Tuesday Wednesday
      Thursday Friday Saturday Sunday Note When the BackupPolicyMode parameter
      is set to DataBackupPolicy, this parameter is required.
  DbNames:
    Type: String
    Description: The names of the databases that you want to create on the new instance.
  DBInstanceId:
    Type: String
    Description: Instance id
  SecurityIPList:
    Type: String
    Description: >-
      Security ip to access the database instance, combine with comma, 0.0.0.0/0
      means no limitation.
  DBInstanceStorage:
    Type: Number
    Description: >-
      Database instance storage size. mysql is [5,1000]. sql server 2008r2 is
      [10,1000], sql server 2012/2012_web/2016-web is [20,1000]. PostgreSQL and
      PPAS is [5,2000]. Increased every 5 GB, Unit in GB
  BackupType:
    Type: String
    Description: |-
      The type of backup used by the new instance. Valid values:
       - FullBackup: full backup
       - IncrementalBackup: incremental backup
    AllowedValues:
      - FullBackup
      - IncrementalBackup
  DBMappings:
    Type: Json
    Description: Database mappings to attach to db instance.
  ConnectionStringPrefix:
    Type: String
    Description: >-
      The prefix of the endpoint.
      Only the prefix of the CurrentConnectionString parameter value can be
      modified.
      The prefix must be 8 to 64 characters in length and can contain letters,
      digits, and hyphens (-).
    AllowedPattern: '[a-zA-Z0-9-]{8,64}'
  MaintainTime:
    Type: String
    Description: >-
      The period during which the maintenance performs. The format is
      HH:mmZ-HH:mmZ.
  Tags:
    Type: Json
    Description: >-
      The tags of an instance.
      You should input the information of the tag with the format of the
      Key-Value, such as {"key1":"value1","key2":"value2", ... "key5":"value5"}.
      At most 5 tags can be specified.
      Key
      It can be up to 64 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Cannot be a null string.
      Value
      It can be up to 128 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Can be a null string.
  DBInstanceDescription:
    Type: String
    Description: Description of created database instance.
  ZoneId:
    Type: String
    Description: >-
      selected zone to create database instance. You cannot set the ZoneId
```

```
    selected zone to create database instance. You cannot set the ZoneId
    parameter if the MultiAZ parameter is set to true.
  SlaveZoneIds:
    Type: Json
    Description: >-
      List of slave zone ids can specify slave zone ids when creating the
      high-availability or enterprise edition instance. Meanwhile, VSwitchId
      needs to pass in the corresponding vswitch id to the slave zone by order.
      For example, ZoneId = "zone-a" and SlaveZoneIds = ["zone-c", "zone-b"],
      then the VSwitchId must be "vsw-zone-a,vsw-zone-c,vsw-zone-b". Of course,
      you can also choose automatic allocation, for example, ZoneId = "zone-a"
      and SlaveZoneIds = ["Auto", "Auto"], then the VSwitchId must be
      "vsw-zone-a,Auto,Auto". The list contains up to 2 slave zone ids,
      separated by commas.
    MaxLength: 2
  DBInstanceClass:
    Type: String
    Description: >-
      Database instance type. Refer the RDS database instance type reference,
      such as 'rds.mys2.large', 'rds.mss1.large', 'rds.pg.s1.small' etc
  AllocatePublicConnection:
    Type: Boolean
    Description: 'If true, allocate public connection automate.'
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  PreferredBackupTime:
    Type: String
    Description: >-
      The time when the backup task is performed. Format:
      yyyy-MM-ddZ-HH:mm:ssZ.Note When the BackupPolicyMode parameter is set to
      DataBackupPolicy, this parameter is required.
  VSwitchId:
    Type: String
    Description: >-
      The vSwitch id of created instance. For VPC network, the property is
      required.
  SecurityGroupId:
    Type: String
    Description: |
      The ID of the ECS security groups.
      Each RDS instance can be associated with up to three ECS security groups.
      You must separate them with commas (,).
      To delete an ECS Security group, leave this parameter empty.
  Period:
    Type: Number
    Description: >-
      Prepaid time period. While choose by pay by month, it could be from 1 to
      9. While choose pay by year, it could be from 1 to 3.
    MinValue: 1
    MaxValue: 9
    Default: 1
  PayType:
    Type: String
    Description: The charge type of created instance.
    AllowedValues:
      - Prepaid
      - Postpaid
    Default: Postpaid
  DBInstanceStorageType:
    Type: String
    Description: >-
      The storage type of the instance. Valid values:
      local_ssd: specifies to use local SSDs. This is the recommended storage
      type.
      cloud_ssd: specifies to use standard SSDs.
      cloud_essd: specifies to use enhanced SSDs.
  ConnectionStringType:
    Type: String
    Description: 'The endpoint type of the instance, allow values: Inner, Public'
    AllowedValues:
      - Inner
      - Public
```

```
    Default: Inner
  RestoreTable:
    Type: String
    Description: >-
      Specifies whether to restore specific databases and tables.
      The value 1 specifies to restore specific databases and tables.
      If you do not want to restore specific databases or tables, you can choose
      not to specify this parameter.
  MasterUserPassword:
    Type: String
    Description: 'The master password for the database instance. '
    MinLength: 8
    MaxLength: 32
  MasterUserType:
    Type: String
    Description: |-
      Privilege type of account.
       Normal: Common privilege.
       Super: High privilege.
      Sysadmin: Super privileges (SA) (only supported by SQL Server)
      The default value is Normal.
    AllowedValues:
      - Normal
      - Super
      - Sysadmin
    Default: Normal
  VpcId:
    Type: String
    Description: >-
      The VPC id of created database instance. For VPC network, the property is
      required.
  SSLSetting:
    Type: String
    Description: >-
      Secure Sockets Layer (SSL) link setting of the instance. Valid values:
      Disabled: Disable SSL
      EnabledForPublicConnection: Public connection address will be protected by
      the SSL certificate. It requires AllocatePublicConnection is true.
      EnabledForInnerConnection: Private connection address will be protected by
      the SSL certificate.
      Default value is Disabled.
    AllowedValues:
      - Disabled
      - EnabledForPublicConnection
      - EnabledForInnerConnection
    Default: Disabled
  MasterUsername:
    Type: String
    Description: 'The master user name for the database instance. '
  SQLCollectorStatus:
    Type: String
    Description: >-
      Specifies whether to enable or disable the SQL Explorer (SQL audit)
      feature.
      Valid values:Enable | Disabled.
    AllowedValues:
      - Enable
      - Disabled
  BackupRetentionPeriod:
    Type: Number
    Description: >-
      The retention period of the data backup. Value range: 7 to 730. The
      default value is the original value. Note When the BackupPolicyMode
      parameter is set to LogBackupPolicy, this parameter is required.
    Default: 7
  TableMeta:
    Type: Json
    Description: The information about the databases and tables that you want to restore.
  TimeoutInMinutes:
    Type: Number
    Description: >-
      The timeout period for creating the clone instance resource. Unit: Minute.
      Default: 120.
    AllowedValues:
```

```
      - 30
      - 60
      - 90
      - 120
      - 150
      - 180
      - 210
      - 240
      - 270
      - 300
      - 330
      - 360
    Default: 120
Resources:
  DbInstanceClone:
    Type: 'ALIYUN::RDS::DBInstanceClone'
    Properties:
      PeriodType:
        Ref: PeriodType
      Category:
        Ref: Category
      PrivateIpAddress:
        Ref: PrivateIpAddress
      DedicatedHostGroupId:
        Ref: DedicatedHostGroupId
      Port:
        Ref: Port
      BackupId:
        Ref: BackupId
      InstanceNetworkType:
        Ref: InstanceNetworkType
      RestoreTime:
        Ref: RestoreTime
      PreferredBackupPeriod:
        Ref: PreferredBackupPeriod
      DbNames:
        Ref: DbNames
      DBInstanceId:
        Ref: DBInstanceId
      SecurityIPList:
        Ref: SecurityIPList
      DBInstanceStorage:
        Ref: DBInstanceStorage
      BackupType:
        Ref: BackupType
      DBMappings:
        Ref: DBMappings
      ConnectionStringPrefix:
        Ref: ConnectionStringPrefix
      MaintainTime:
        Ref: MaintainTime
      Tags:
        Ref: Tags
      DBInstanceDescription:
        Ref: DBInstanceDescription
      ZoneId:
        Ref: ZoneId
      SlaveZoneIds:
        Ref: SlaveZoneIds
      DBInstanceClass:
        Ref: DBInstanceClass
      AllocatePublicConnection:
        Ref: AllocatePublicConnection
      PreferredBackupTime:
        Ref: PreferredBackupTime
      VSwitchId:
        Ref: VSwitchId
      SecurityGroupId:
        Ref: SecurityGroupId
      Period:
        Ref: Period
      PayType:
        Ref: PayType
      DBInstanceStorageType:
```

```
        Ref: DBInstanceStorageType
      ConnectionStringType:
        Ref: ConnectionStringType
      RestoreTable:
        Ref: RestoreTable
      MasterUserPassword:
        Ref: MasterUserPassword
      MasterUserType:
        Ref: MasterUserType
      VpcId:
        Ref: VpcId
      SSLSetting:
        Ref: SSLSetting
      MasterUsername:
        Ref: MasterUsername
      SQLCollectorStatus:
        Ref: SQLCollectorStatus
      BackupRetentionPeriod:
        Ref: BackupRetentionPeriod
      TableMeta:
        Ref: TableMeta
      TimeoutInMinutes:
        Ref: TimeoutInMinutes
Outputs:
  InnerConnectionString:
    Description: DB instance connection url by Intranet.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - InnerConnectionString
  DBInstanceId:
    Description: The instance id of created database instance.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - DBInstanceId
  InnerIPAddress:
    Description: IP Address for created DB instance of Intranet.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - InnerIPAddress
  PublicConnectionString:
    Description: DB instance connection url by Internet.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - PublicConnectionString
  PublicIPAddress:
    Description: IP Address for created DB instance of Internet.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - PublicIPAddress
  PublicPort:
    Description: Internet port of created DB instance.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - PublicPort
  InnerPort:
    Description: Intranet port of created DB instance.
    Value:
      'Fn::GetAtt':
        - DbInstanceClone
        - InnerPort
```

57.9. ALIYUN::RDS::PrepayDBInstance

ALIYUN::RDS::PrepayDBInstance is used to create a subscription ApsaraDB RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::PrepayDBInstance",
  "Properties": {
    "DBMappings": List,
    "CouponCode": String,
    "MasterUsername": String,
    "PeriodType": String,
    "DBInstanceNetType": String,
    "MasterUserType": String,
    "AutoRenew": Boolean,
    "PreferredBackupTime": String,
    "PrivateIpAddress": String,
    "Engine": String,
    "MultiAZ": Boolean,
    "VpcId": String,
    "ConnectionMode": String,
    "ResourceGroupId": String,
    "VSwitchId": String,
    "BackupRetentionPeriod": Number,
    "Quantity": Number,
    "CommodityCode": String,
    "ZoneId": String,
    "AutoPay": Boolean,
    "Port": Integer,
    "ConnectionStringPrefix": String,
    "ConnectionStringType": String,
    "EngineVersion": String,
    "DBInstanceClass": String,
    "PreferredBackupPeriod": List,
    "DBInstanceStorage": Integer,
    "DBInstanceDescription": String,
    "Tags": Map,
    "Period": Number,
    "MasterUserPassword": String,
    "AllocatePublicConnection": Boolean,
    "SlaveZoneIds": List,
    "TargetDedicatedHostIdForMaster": String,
    "RoleARN": String,
    "DBInstanceStorageType": String,
    "Category": String,
    "DBParamGroupId": String,
    "EncryptionKey": String,
    "DBIsIgnoreCase": Integer,
    "SecurityGroupId": String,
    "TargetDedicatedHostIdForLog": String,
    "DBTimeZone": String,
    "DedicatedHostGroupId": String,
    "TargetDedicatedHostIdForSlave": String,
    "MaintainTime": String,
    "SQLCollectorStatus": String,
    "SSLSetting": String,
    "ArchiveBackupRetentionPeriod": Integer,
    "LogBackupRetentionPeriod": Integer,
    "EnableBackupLog": Boolean,
    "LogBackupLocalRetentionNumber": Integer,
    "ArchiveBackupKeepPolicy": String,
    "LocalLogRetentionHours": Integer,
    "HighSpaceUsageProtection": String,
    "CompressType": Integer,
    "LogBackupFrequency": String,
    "BackupPolicyMode": String,
    "ArchiveBackupKeepCount": Integer,
    "LocalLogRetentionSpace": Integer,
    "ReleasedKeepPolicy": String,
    "BackUpCategory": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group to which the instance belongs.	None
DBMappings	List	No	No	The list of one or more databases to be created in the instance.	For more information, see DBMappings properties.
CouponCode	String	No	No	The coupon code.	None
MasterUsername	String	No	No	The name of the database account.	The name must be globally unique. The name must be 2 to 16 characters in length and can contain letters, digits, and underscores (_). It must start with a letter and end with a letter or digit.
PeriodType	String	Yes	No	The unit of the subscription period.	Default value: Month. Valid values: • Year • Month
DBInstanceNetType	String	No	No	The network type of the instance.	Default value: Intranet. Valid values: • Internet • Intranet
MasterUserType	String	No	No	The type of the database account.	Default value: Normal. Valid values: • Normal: standard account • Super: privileged account • Sysadmin: administrator account Note This parameter can be set to Sysadmin only when the Engine parameter is set to SQLServer.
Port	Integer	No	Yes	The port that is used to connect to the instance.	None
ConnectionStringPrefix	String	No	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length and can contain letters, digits, and hyphens (-).
ConnectionStringType	String	No	Yes	The type of the endpoint.	Valid values: • Inner: VPC • Public: Internet

Property	Type	Required	Editable	Description	Constraint
PreferredBackupTime	String	No	No	The backup window.	Specify the window in the HH:mmZ-HH:mmZ format. Value values: 00:00Z-01:00Z, 01:00Z-02:00Z, 02:00Z-03:00Z, 03:00Z-04:00Z, 04:00Z-05:00Z, 05:00Z-06:00Z, 06:00Z-07:00Z, 07:00Z-08:00Z, 08:00Z-09:00Z, 09:00Z-10:00Z, 10:00Z-11:00Z, 11:00Z-12:00Z, 12:00Z-13:00Z, 13:00Z-14:00Z, 14:00Z-15:00Z, 15:00Z-16:00Z, 16:00Z-17:00Z, 17:00Z-18:00Z, 18:00Z-19:00Z, 19:00Z-20:00Z, 20:00Z-21:00Z, 21:00Z-22:00Z, 22:00Z-23:00Z, and 23:00Z-24:00Z.
PrivateIpAddress	String	No	No	The private IP address in the CIDR block of the specified vSwitch.	If you do not specify this parameter, the system allocates a private IP address.
Engine	String	Yes	No	The type of the database engine.	Valid values: • MySQL • SQLServer • PostgreSQL • PPAS • MariaDB
MultiAZ	Boolean	No	No	Specifies whether the instance can be deployed across multiple zones.	Valid values: • true • false
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	None
ConnectionMode	String	No	No	The connection mode of the instance.	Default value: Safe. Valid values: • Standard: the standard mode Note If you create an instance that runs SQL Server 2012, SQL Server 2016, or SQL Server 2017, you can set this parameter only to Standard. • Safe: the database proxy mode If you do not specify this parameter, the system assigns a connection mode.
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the instance.	Valid values: • true • false
VSwitchId	String	No	No	The ID of the vSwitch in the specified VPC.	None
BackupRetentionPeriod	Number	No	No	The number of days for which backup files can be retained.	None

Property	Type	Required	Editable	Description	Constraint
Quantity	Number	No	No	The number of instances to be created.	Valid values: 1 to 99. Default value: 1.
CommodityCode	String	Yes	No	The commodity code.	Valid values: • rds • bards • rords
ZoneId	String	No	No	The zone ID of the instance.	None
EngineVersion	String	Yes	No	The version of the database engine.	Valid values: • Valid values when Engine is set to MySQL: 5.5, 5.6, 5.7, and 8.0. • Valid values when Engine is set to SQLServer: 2008r2, 08r2_ent_ha, 2012, 2012_ent_ha, 2012_std_ha, 2012_web, 2014_std_ha, 2016_ent_ha, 2016_std_ha, 2016_web, 2017_std_ha, 2017_ent, and 2019_ent. • Valid values when Engine is set to PostgreSQL: 9.4, 10.0, 11.0, and 12.0. • Valid values when Engine is set to PPAS: 9.3 and 10.0. • Set the value to 10.3 when Engine is set to MariaDB.
DBInstanceClass	String	Yes	Yes	The instance type.	Examples: rds.mys2.large, rds.mss1.large, and rds.pg.s1.small.
PreferredBackupPeriod	List	No	No	The backup cycle.	Valid values: • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday
DBInstanceStorage	Integer	Yes	Yes	The storage capacity of the instance.	Valid values: • Valid values when Engine is set to MySQL: 5 to 1000. • Valid values when Engine is set to SQLServer: 10 to 1000. • Valid values when Engine is set to PostgreSQL or PPAS: 5 to 2000. Unit: GB. **Note** This value must be in 5 GB increments.
DBInstanceDescription	String	No	No	The description of the instance.	The description must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
Tags	Map	No	Yes	The tags of the instance.	None

Property	Type	Required	Editable	Description	Constraint
Period	Number	Yes	No	The subscription period.	Valid values: • Valid values when PeriodType is set to Month: 1 to 9. • Valid values when PeriodType is set to Year: 1 to 3.
MasterUserPassword	String	No	No	The password of the database account.	The password must be 8 to 32 characters in length. It must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `!@ # $ &amp ; % ^ * ( ) _ + - =` .
AllocatePublicConnection	Boolean	No	No	Specifies whether to apply for a public endpoint for the instance.	Valid values: • true • false
AutoPay	Boolean	No	No	Specifies whether to enable automatic payment for the instance.	Default value: false. Valid values: • true • false
SlaveZoneIds	List	No	No	The list of one or more secondary zone IDs that you must specify when you create a High-availability or Enterprise Edition instance.	A maximum of two secondary zones can be specified. For example, you can set this parameter to `["zone-b"]` or `["zone-b", "zone-c"]` . You must specify a vSwitch for each primary or secondary zone. For example, if ZoneId is set to `"zone-a"` and SlaveZoneIds is set to `["zone-c", "zone-b"]` , you must set the VSwitchID value in the following format: `"vsw-zone-a,vsw-zone-c,vsw-zone-b"` . If you want the system to automatically select a secondary zone, set this parameter to `["Auto"]` or `["Auto", "Auto"]` . In this case, if you specify a vSwitch for the primary zone, the system creates a vSwitch in the corresponding secondary zone.
TargetDedicatedHostIdFor Master	String	No	No	The ID of the host on which to create a primary instance within a dedicated cluster.	None
RoleARN	String	No	No	The Alibaba Cloud Resource Name (ARN) that is provided to the service account of the instance by your Alibaba Cloud account. This ARN is used to connect to Key Management Service (KMS).	None

Property	Type	Required	Editable	Description	Constraint
DBInstanceStorageType	String	No	No	The storage type of the instance.	Valid values: • local_ssd: local SSD. This is the recommended storage type. • cloud_ssd: standard SSD. • cloud_essd: enhanced SSD (ESSD).
Category	String	No	No	The edition of the instance.	Valid values: • Basic: Basic Edition • HighAvailability: High-availability Edition • AlwaysOn: Cluster Edition • Finance: Enterprise Edition
DBParamGroupId	String	No	No	The ID of the parameter template to be used by the instance.	None
EncryptionKey	String	No	No	The ID of the encryption key that is used to encrypt data on SSDs in the region.	You can view the ID of an existing encryption key or create an encryption key in the KMS console.
DBIsIgnoreCase	Integer	No	No	Specifies whether table names are case-sensitive.	Default value: 1. Valid values: • 1: Table names are case-insensitive. • 0: Table names are case-sensitive.
SecurityGroupId	String	No	Yes	The ID of the associated security group.	Each ApsaraDB RDS instance can be associated with up to three security groups. Separate multiple security groups with commas (,). To delete all security groups, set this parameter to an empty string.
TargetDedicatedHostIdForLog	String	No	No	The ID of the host on which to create a logger instance within a dedicated cluster.	None
DBTimeZone	String	No	No	The UTC time zone of the instance.	Valid values: -12:59 to +13:00. If you do not specify this parameter, the system assigns the default time zone of the region to which the instance belongs. If you create an instance that has local SSDs attached, you can name the time zone.
DedicatedHostGroupId	String	No	No	The ID of the dedicated cluster in which to create instances.	None
TargetDedicatedHostIdForSlave	String	No	No	The ID of the host on which to create a secondary instance within a dedicated cluster.	None

Property	Type	Required	Editable	Description	Constraint
MaintainTime	String	No	No	The maintenance window of the instance.	Specify the window in the HH:mmZ-HH:mmZ format.
SQLCollectorStatus	String	No	Yes	Specifies whether to enable SQL Explorer and Audit.	Valid values: • Enable • Disabled
SSLSetting	String	No	No	The settings of the SSL connection for the instance.	Default value: Disabled. Valid values: • Disabled: The SSL connection is disabled. • EnabledForPublicConnection: The SSL connection is enabled. SSL certificates are used to protect public endpoints. Note If you set this parameter to EnabledForPublicConnection, you must set the AllocatePublicConnection parameter to true. • EnabledForInnerConnection: The SSL connection is enabled. SSL certificates are used to protect internal endpoints.
ArchiveBackupRetentionPeriod	Integer	No	No	The number of days for which archived backup files can be retained.	None
LogBackupRetentionPeriod	Integer	No	No	The number of days for which log backup files can be retained.	None
EnableBackupLog	Boolean	No	No	Specifies whether to enable the log backup feature.	Valid values: • true: The log backup feature is enabled. • false: The log backup feature is disabled.
LogBackupLocalRetentionNumber	Integer	No	No	The number of binary log files that can be retained on the instance.	None
ArchiveBackupKeepPolicy	String	No	No	The cycle based on which archived backup files are retained.	Valid values: • ByMonth • ByWeek • KeepAll ArchiveBackupKeepCount determines the number of backup files that can be retained within the cycle. The default value is 0. Note This parameter is valid when the BackupPolicyMode parameter is set to DataBackupPolicy.

Property	Type	Required	Editable	Description	Constraint
LocalLogRetentionHours	Integer	No	No	The number of hours for which log backup files can be retained on the instance.	None
HighSpaceUsageProtection	String	No	No	Specifies whether to enable the feature that is used to delete binary log files if the disk usage exceeds 80% or the remaining disk space is less than 5 GB on the instance.	Valid values: • Disable: Binary log files are not deleted. • Enable: Binary log files are deleted.
CompressType	Integer	No	No	The format used to compress backup data.	Valid values: • 0: Data is not compressed. • 1: Backup data is compressed by using zlib. • 2: Backup data is compressed by using zlib that invokes more than one thread in parallel for each backup. • 4: Backup data is compressed by using QuickLZ and can be used to restore individual databases and tables. • 8: Backup data is compressed by using QuickLZ but cannot be used to restore individual databases or tables. This value is available only when the instance runs MySQL 8.0.
LogBackupFrequency	String	No	No	The backup frequency of logs.	This parameter is available only when the instance runs SQL Server. Set the value to LogInterval. The value of LogInterval indicates that logs are backed up every 30 minutes. **Note** The default frequency is the same as the value of the PreferredBackupPeriod parameter.
BackupPolicyMode	String	No	No	The type of the backup.	Valid values: • DataBackupPolicy • LogBackupPolicy
ArchiveBackupKeepCount	Integer	No	No	The number of archived backup files that can be retained.	None
LocalLogRetentionSpace	Integer	No	No	The maximum disk usage that is allowed for log backup files on the instance.	None

Property	Type	Required	Editable	Description	Constraint
ReleasedKeepPolicy	String	No	No	The policy that is used to retain archived backup files if the instance is released.	Valid values: • None: No archived backup files are retained. • Lastest: Only the last archived backup file is retained. • All: All archived backup files are retained.
BackUpCategory	String	No	No	The edition of the secondary instance.	Valid values: • Basic: Basic Edition • HighAvailability: High-availability Edition • AlwaysOn: Cluster Edition • Finance: Enterprise Edition

DBMappings syntax

```
"DBMappings": [
  {
    "DBDescription": String,
    "CharacterSetName": String,
    "DBName": String
  }
]
```

DBMappings properties

Property	Type	Required	Editable	Description	Constraint
DBDescription	String	No	No	The description of the database.	The description must be 2 to 256 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.

Property	Type	Required	Editable	Description	Constraint
CharacterSetName	String	Yes	No	The character set.	Valid values: • Valid values when Engine is set to MySQL or MariaDB: ○ utf8 ○ gbk ○ latin1 ○ utf8mb4 • Valid values when Engine is set to SQLServer: ○ Chinese_PRC_CI_AS ○ Chinese_PRC_CS_AS ○ SQL_Latin1_General_CP1_CI_AS ○ SQL_Latin1_General_CP1_CS_AS ○ Chinese_PRC_BIN • Valid values when Engine is set to PostgreSQL: ○ KOI8U ○ UTF8 ○ WIN866 ○ WIN874 ○ WIN1250 ○ WIN1251 ○ WIN1252 ○ WIN1253 ○ WIN1254 ○ WIN1255 ○ WIN1256 ○ WIN1257 ○ WIN1258 ○ EUC_CN ○ EUC_KR ○ EUC_TW ○ EUC_JP ○ EUC_JIS_2004 ○ KOI8R ○ MULE_INTERNAL ○ LATIN1 ○ LATIN2 ○ LATIN3 ○ LATIN4 ○ LATIN5 ○ LATIN6 ○ LATIN7 ○ LATIN8 ○ LATIN9 ○ LATIN10 ○ ISO_8859_5 ○ ISO_8859_6 ○ ISO_8859_7 ○ ISO_8859_8 ○ SQL_ASCII

Property	Type	Required	Editable	Description	Constraint
DBName	String	Yes	No	The database name.	The name must be globally unique. It can be up to 64 characters in length and can contain lowercase letters, digits, and underscores (_). It must start with a lowercase letter.

Response parameters

Fn::GetAtt

- InnerPort: the internal port of the instance.
- OrderId: the ID of the order.
- PublicConnectionString: the public endpoint of the instance.
- InnerIPAddress: the internal IP address of the instance.
- DBInstanceId: the ID of the instance.
- PublicIPAddress: the public IP address of the instance.
- PublicPort: the public port of the instance.
- InnerConnectionString: the internal endpoint of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances.",
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "ArchiveBackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The number of days for which to retain archived backups. \n The default value 0 specifies not to enable t
he backup archiving function. Valid values: 30 to 1095.",
      "MinValue": 30,
      "MaxValue": 1095
    },
    "DBTimeZone": {
      "Type": "String",
      "Description": "The UTC time zone of the instance. Valid values: -12:00 to +12:00. The time zone must be an integer value
such as +08:00. Values such as +08:30 are not allowed."
    },
    "Port": {
      "Type": "Number",
      "Description": "The port of the database service.",
      "MinValue": 1,
      "MaxValue": 65535
    },
    "ArchiveBackupKeepCount": {
      "Type": "Number",
      "Description": "The number of archived backups that can be retained. Default value: 1. Valid values: \nThe value of this
parameter ranges from 1 to 31 when the ArchiveBackupKeepPolicy \n parameter is set to ByMonth. \nThe value of this parameter ra
nges from 1 to 7 when the ArchiveBackupKeepPolicy \n parameter is set to ByWeek. \nNote You do not need to specify this paramet
er when the ArchiveBackupKeepPolicy \nparameter is set to KeepAll.",
      "MinValue": 1,
      "MaxValue": 31
    },
    "LogBackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The number of days for which to retain log backup files. Valid values: 7 to 730. The log backup \n retent
```

```
ion period cannot be longer than the data backup retention period. Note If you enable the log \n backup function, you can speci
fy the log backup retention period. This applies only when the \n instance runs MySQL, PostgreSQL, or PPAS.",
      "MinValue": 7,
      "MaxValue": 730
    },
    "DBInstanceStorage": {
      "Type": "Number",
      "Description": "Database instance storage size. mysql is [5,1000]. sql server 2008r2 is [10,1000], sql server 2012/2012_w
eb/2016-web is [20,1000]. PostgreSQL and PPAS is [5,2000]. Increased every 5 GB, Unit in GB"
    },
    "DBMappings": {
      "Type": "Json",
      "Description": "Database mappings to attach to db instance."
    },
    "ConnectionStringPrefix": {
      "Type": "String",
      "Description": "The prefix of the endpoint. \nOnly the prefix of the CurrentConnectionString parameter value can be modif
ied.\nThe prefix must be 8 to 64 characters in length and can contain letters, digits, and hyphens (-). ",
      "AllowedPattern": "[a-zA-Z0-9-]{8,64}"
    },
    "MultiAZ": {
      "Type": "Boolean",
      "Description": "Specifies if the database instance is a multiple Availability Zone deployment. ",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "Engine": {
      "Type": "String",
      "Description": "Database instance engine type. Support MySQL/SQLServer/PostgreSQL/PPAS/MariaDB now.",
      "AllowedValues": [
        "MySQL",
        "SQLServer",
        "PostgreSQL",
        "PPAS",
        "MariaDB"
      ]
    },
    "Tags": {
      "Type": "Json",
      "Description": "The tags of an instance.\nYou should input the information of the tag with the format of the Key-Value, s
uch as {\"key1\":\"value1\",\"key2\":\"value2\", ... \"key5\":\"value5\"}.\nAt most 5 tags can be specified.\nKey\nIt can be up
to 64 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCannot be a null string.\nValue
\nIt can be up to 128 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCan be a null s
tring."
    },
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "TargetDedicatedHostIdForMaster": {
      "Type": "String",
      "Description": "The ID of the host to which the instance belongs if you create a primary instance in a host group."
    },
    "EngineVersion": {
      "Type": "String",
      "Description": "Database instance version of the relative engine type.Support MySQL: 5.5/5.6/5.7/8.0;\nSQLServer: 2008r2/
2012/2012_ent_ha/2012_std_ha/2012_web/2016_ent_ha/2016_std_ha/2016_web/2017_std_ha/2017_ent;\nPostgreSQL: 9.4/10.0/11.0/12.0;\n
PPAS: 9.3/10.0;\nMariaDB: 10.3."
    },
    "DBInstanceClass": {
      "Type": "String",
      "Description": "Database instance type. Refer the RDS database instance type reference, such as 'rds.mys2.large', 'rds.ms
s1.large', 'rds.pg.s1.small' etc"
    },
    "ArchiveBackupKeepPolicy": {
      "Type": "String",
      "Description": "The period for which to retain archived backups. The number of archived backups that can \n be retained w
ithin the specified period is determined by the ArchiveBackupKeepCount parameter. \n Default value: 0. Valid values: \nByMonth
\n ByWeek \n KeepAll",
      "AllowedValues": [
```

```
      "AllowedValues": [
        "ByMonth",
        "ByWeek",
        "KeepAll"
      ]
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The vSwitch id of created instance. For VPC network, the property is required."
    },
    "BackupPolicyMode": {
      "Type": "String",
      "Description": "Backup type, \nDataBackupPolicy: data backup \nLogBackupPolicy: log backup",
      "AllowedValues": [
        "DataBackupPolicy",
        "LogBackupPolicy"
      ]
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. While choose by pay by month, it could be from 1 to 9. While choose pay by year, it
could be from 1 to 3.",
      "MinValue": 1,
      "MaxValue": 9,
      "Default": 1
    },
    "LocalLogRetentionHours": {
      "Type": "Number",
      "Description": "The number of hours for which to retain log backup files on the instance. \nValid values: 0 to 168. The v
alue 0 specifies not to retain log backup files on the instance. \nYou can retain the default value. Note You must specify this
parameter when the BackupPolicyMode \nparameter is set to LogBackupPolicy.",
      "MinValue": 0,
      "MaxValue": 168
    },
    "HighSpaceUsageProtection": {
      "Type": "String",
      "Description": "Specifies whether to forcibly delete log backup files when the space usage of the \n instance exceeds 80%
or the remaining space is less than 5 GB. Valid values: \n Enable and Disable. You can retain the default value. Note You must
specify \n this parameter when the BackupPolicyMode parameter is set to LogBackupPolicy.",
      "AllowedValues": [
        "Enable",
        "Disable"
      ]
    },
    "RoleARN": {
      "Type": "String",
      "Description": "The Alibaba Cloud Resource Name (ARN) provided to the service account of the instance by your Alibaba Clo
ud account to connect to KMS. You can copy the ARN from the RAM console."
    },
    "MasterUserPassword": {
      "Type": "String",
      "Description": "The master password for the database instance. ",
      "MinLength": 8,
      "MaxLength": 32
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id of created database instance. For VPC network, the property is required."
    },
    "SSLSetting": {
      "Type": "String",
      "Description": "Secure Sockets Layer (SSL) link setting of the instance. Valid values:\nDisabled: Disable SSL\nEnabledFor
PublicConnection: Public connection address will be protected by the SSL certificate. It requires AllocatePublicConnection is t
rue.\nEnabledForInnerConnection: Private connection address will be protected by the SSL certificate.\nDefault value is Disable
d.",
      "AllowedValues": [
        "Disabled",
        "EnabledForPublicConnection",
        "EnabledForInnerConnection"
      ],
      "Default": "Disabled"
    },
    "MasterUsername": {
      "Type": "String",
      "Description": "The master user name for the database instance. "
```

```
    },
    "ConnectionMode": {
      "Type": "String",
      "Description": "Connection Mode for database instance,support 'Standard' and 'Safe' mode. Default is RDS system assigns.
"
    },
    "LocalLogRetentionSpace": {
      "Type": "Number",
      "Description": "The maximum percentage of space that is allowed to store log backup files on the instance. \n If the spac
e usage for log backup files exceeds this percentage, the system deletes earlier \n log backup files until the space usage fall
s below this percentage. Valid values:0 to 50. \n You can retain the default value. Note You must specify this parameter when t
he \n BackupPolicyMode parameter is set to LogBackupPolicy.",
      "MinValue": 0,
      "MaxValue": 50
    },
    "Category": {
      "Type": "String",
      "Description": "The edition of the instance. Valid values:\nBasic: specifies to use the Basic Edition.\nHighAvailability:
specifies to use the High-availability Edition.\nAlwaysOn: specifies to use the Cluster Edition.\nFinance: specifies to use the
Enterprise Edition.",
      "AllowedValues": [
        "Basic",
        "HighAvailability",
        "AlwaysOn",
        "Finance"
      ]
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "The private ip for created instance."
    },
    "TargetDedicatedHostIdForSlave": {
      "Type": "String",
      "Description": "The ID of the host to which the instance belongs if you create a secondary instance in a host group."
    },
    "DBInstanceNetType": {
      "Type": "String",
      "Description": "Database instance net type, default is Intranet.Internet for public access, Intranet for private access."
,
      "AllowedValues": [
        "Internet",
        "Intranet"
      ],
      "Default": "Intranet"
    },
    "ReleasedKeepPolicy": {
      "Type": "String",
      "Description": "The policy used to retain archived backups if the instance is released. Default value: None. \n Valid val
ues: \nLastest: Only the last archived backup is retained. \n All: All of the archived backups are retained.",
      "AllowedValues": [
        "Lastest",
        "All"
      ]
    },
    "DedicatedHostGroupId": {
      "Type": "String",
      "Description": "The ID of the host group to which the instance belongs if you create an instance in a host group."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Auto renew the prepay instance. If the period type is by year, it will renew by year, else it will renew
by month.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "EncryptionKey": {
      "Type": "String",
      "Description": "The ID of the encryption key that is used to encrypt data on SSDs in the region. You can view the encrypt
ion key ID in the Key Management Service (KMS) console. You can also create an encryption key."
```

```
    },
    "PreferredBackupPeriod": {
      "Type": "CommaDelimitedList",
      "Description": "The backup period. Separate multiple values with commas (,). The default value is the original value. Val
id values:Monday Tuesday Wednesday Thursday Friday Saturday Sunday Note When the BackupPolicyMode parameter is set to DataBacku
pPolicy, this parameter is required."
    },
    "LogBackupLocalRetentionNumber": {
      "Type": "Number",
      "Description": "The number of log backup files that can be retained on the instance. \nDefault value: 60. Valid values: 6
to 100.",
      "MinValue": 6,
      "MaxValue": 100
    },
    "SlaveZoneIds": {
      "Type": "Json",
      "Description": "List of slave zone ids can specify slave zone ids when creating the high-availability or enterprise editi
on instance. Meanwhile, VSwitchId needs to pass in the corresponding vswitch id to the slave zone by order. For example, ZoneId
= \"zone-a\" and SlaveZoneIds = [\"zone-c\", \"zone-b\"], then the VSwitchId must be \"vsw-zone-a,vsw-zone-c,vsw-zone-b\". Of c
ourse, you can also choose automatic allocation, for example, ZoneId = \"zone-a\" and SlaveZoneIds = [\"Auto\", \"Auto\"], then
the VSwitchId must be \"vsw-zone-a,Auto,Auto\". The list contains up to 2 slave zone ids, separated by commas.",
      "MaxLength": 2
    },
    "DBIsIgnoreCase": {
      "Type": "Number",
      "Description": "Specifies whether table names are case-sensitive. Valid values:\n1: Table names are not case-sensitive. T
his is the default value.\n0: Table names are case-sensitive."
    },
    "CommodityCode": {
      "Type": "String",
      "Description": "The CommodityCode of the order.",
      "AllowedValues": [
        "rds",
        "bards",
        "rords"
      ],
      "Default": "rds"
    },
    "MaintainTime": {
      "Type": "String",
      "Description": "The period during which the maintenance performs. The format is HH:mmZ-HH:mmZ."
    },
    "DBParamGroupId": {
      "Type": "String",
      "Description": "The ID of the parameter template used by the instance."
    },
    "ZoneId": {
      "Type": "String",
      "Description": "selected zone to create database instance. You cannot set the ZoneId parameter if the MultiAZ parameter i
s set to true."
    },
    "TargetDedicatedHostIdForLog": {
      "Type": "String",
      "Description": "The ID of the host to which the instance belongs if you create a log instance in a host group."
    },
    "AllocatePublicConnection": {
      "Type": "Boolean",
      "Description": "If true, allocate public connection automate.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PreferredBackupTime": {
      "Type": "String",
      "Description": "The time when the backup task is performed. Format: yyyy-MM-ddZ-HH:mm:ssZ.Note When the BackupPolicyMode
parameter is set to DataBackupPolicy, this parameter is required."
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "The ID of the ECS security groups. \nEach RDS instance can be associated with up to three ECS security gr
oups. \nYou must separate them with commas (,). \nTo delete an ECS Security group, leave this parameter empty. \n"
```

```
    },
    "Quantity": {
      "Type": "Number",
      "Description": "The number of instance to be created, default is 1, max number is 99",
      "MinValue": 1,
      "MaxValue": 99,
      "Default": 1
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Automatic Payment. Default is false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "DBInstanceStorageType": {
      "Type": "String",
      "Description": "The storage type of the instance. Valid values:\nlocal_ssd: specifies to use local SSDs. This is the reco
mmended storage type.\ncloud_ssd: specifies to use standard SSDs.\ncloud_essd: specifies to use enhanced SSDs."
    },
    "BackUpCategory": {
      "Type": "String",
      "Description": "Specifies whether to enable the second-level backup function. This function allows a backup \nto be compl
eted within seconds. Valid values: \nFlash: specifies to enable the second-level backup function. \n Standard: specifies to dis
able the second-level backup function.",
      "AllowedValues": [
        "Flash",
        "Standard"
      ]
    },
    "CompressType": {
      "Type": "Number",
      "Description": "The format used to compress backups. Valid values: \n 1: The zlib tool is used to compress backups into .
tar.gz files. \n 4: The QuickLZ tool is used to compress backups into .xb.gz files. \nThis compression format is supported only
when the instance runs MySQL 5.6 or 5.7. \nIt can be used to restore individual databases and tables. \n 8: The QuickLZ tool is
used to compress backups into .xb.gz files. \n This compression format is supported only when the instance runs MySQL 8.0. \nIt
cannot be used to restore individual databases or tables."
    },
    "LogBackupFrequency": {
      "Type": "String",
      "Description": "The frequency at which to back up logs. Valid values: \nThe value LogInterval specifies to back up logs e
very 30 minutes. \n The default value of this parameter is the same as the data backup frequency. \nNote The value LogInterval
is supported only when the instance runs SQL Server."
    },
    "ConnectionStringType": {
      "Type": "String",
      "Description": "The endpoint type of the instance, allow values: Inner, Public",
      "AllowedValues": [
        "Inner",
        "Public"
      ],
      "Default": "Inner"
    },
    "CouponCode": {
      "Type": "String",
      "Description": "The coupon code of the order."
    },
    "MasterUserType": {
      "Type": "String",
      "Description": "Privilege type of account.\n Normal: Common privilege. \n Super: High privilege. \nSysadmin: Super privil
eges (SA) (only supported by SQL Server)\nThe default value is Normal.",
      "AllowedValues": [
        "Normal",
        "Super",
        "Sysadmin"
      ],
      "Default": "Normal"
    },
    "EnableBackupLog": {
      "Type": "Boolean",
```

```
      "Description": "Specifies whether to enable the log backup function. Valid values: \nTrue: specifies to enable the log ba
ckup function. \nFalse: specifies to disable the log backup function. \nNote You must specify this parameter when the BackupPol
icyMode parameter is set to LogBackupPolicy.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "SQLCollectorStatus": {
      "Type": "String",
      "Description": "Specifies whether to enable or disable the SQL Explorer (SQL audit) feature. \nValid values:Enable | Disa
bled.",
      "AllowedValues": [
        "Enable",
        "Disabled"
      ]
    },
    "BackupRetentionPeriod": {
      "Type": "Number",
      "Description": "The retention period of the data backup. Value range: 7 to 730. The default value is the original value.
Note When the BackupPolicyMode parameter is set to LogBackupPolicy, this parameter is required.",
      "Default": 7
    }
  },
  "Resources": {
    "PrepayDBInstance": {
      "Type": "ALIYUN::RDS::PrepayDBInstance",
      "Properties": {
        "PeriodType": {
          "Ref": "PeriodType"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "ArchiveBackupRetentionPeriod": {
          "Ref": "ArchiveBackupRetentionPeriod"
        },
        "DBTimeZone": {
          "Ref": "DBTimeZone"
        },
        "Port": {
          "Ref": "Port"
        },
        "ArchiveBackupKeepCount": {
          "Ref": "ArchiveBackupKeepCount"
        },
        "LogBackupRetentionPeriod": {
          "Ref": "LogBackupRetentionPeriod"
        },
        "DBInstanceStorage": {
          "Ref": "DBInstanceStorage"
        },
        "DBMappings": {
          "Ref": "DBMappings"
        },
        "ConnectionStringPrefix": {
          "Ref": "ConnectionStringPrefix"
        },
        "MultiAZ": {
          "Ref": "MultiAZ"
        },
        "Engine": {
          "Ref": "Engine"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "TargetDedicatedHostIdForMaster": {
          "Ref": "TargetDedicatedHostIdForMaster"
```

```
        },
        "EngineVersion": {
          "Ref": "EngineVersion"
        },
        "DBInstanceClass": {
          "Ref": "DBInstanceClass"
        },
        "ArchiveBackupKeepPolicy": {
          "Ref": "ArchiveBackupKeepPolicy"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "BackupPolicyMode": {
          "Ref": "BackupPolicyMode"
        },
        "Period": {
          "Ref": "Period"
        },
        "LocalLogRetentionHours": {
          "Ref": "LocalLogRetentionHours"
        },
        "HighSpaceUsageProtection": {
          "Ref": "HighSpaceUsageProtection"
        },
        "RoleARN": {
          "Ref": "RoleARN"
        },
        "MasterUserPassword": {
          "Ref": "MasterUserPassword"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "SSLSetting": {
          "Ref": "SSLSetting"
        },
        "MasterUsername": {
          "Ref": "MasterUsername"
        },
        "ConnectionMode": {
          "Ref": "ConnectionMode"
        },
        "LocalLogRetentionSpace": {
          "Ref": "LocalLogRetentionSpace"
        },
        "Category": {
          "Ref": "Category"
        },
        "PrivateIpAddress": {
          "Ref": "PrivateIpAddress"
        },
        "TargetDedicatedHostIdForSlave": {
          "Ref": "TargetDedicatedHostIdForSlave"
        },
        "DBInstanceNetType": {
          "Ref": "DBInstanceNetType"
        },
        "ReleasedKeepPolicy": {
          "Ref": "ReleasedKeepPolicy"
        },
        "DedicatedHostGroupId": {
          "Ref": "DedicatedHostGroupId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "EncryptionKey": {
          "Ref": "EncryptionKey"
        },
        "PreferredBackupPeriod": {
          "Ref": "PreferredBackupPeriod"
        },
        "LogBackupLocalRetentionNumber": {
```

```
          "Ref": "LogBackupLocalRetentionNumber"
        },
        "SlaveZoneIds": {
          "Ref": "SlaveZoneIds"
        },
        "DBIsIgnoreCase": {
          "Ref": "DBIsIgnoreCase"
        },
        "CommodityCode": {
          "Ref": "CommodityCode"
        },
        "MaintainTime": {
          "Ref": "MaintainTime"
        },
        "DBParamGroupId": {
          "Ref": "DBParamGroupId"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "TargetDedicatedHostIdForLog": {
          "Ref": "TargetDedicatedHostIdForLog"
        },
        "AllocatePublicConnection": {
          "Ref": "AllocatePublicConnection"
        },
        "PreferredBackupTime": {
          "Ref": "PreferredBackupTime"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "Quantity": {
          "Ref": "Quantity"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "DBInstanceStorageType": {
          "Ref": "DBInstanceStorageType"
        },
        "BackUpCategory": {
          "Ref": "BackUpCategory"
        },
        "CompressType": {
          "Ref": "CompressType"
        },
        "LogBackupFrequency": {
          "Ref": "LogBackupFrequency"
        },
        "ConnectionStringType": {
          "Ref": "ConnectionStringType"
        },
        "CouponCode": {
          "Ref": "CouponCode"
        },
        "MasterUserType": {
          "Ref": "MasterUserType"
        },
        "EnableBackupLog": {
          "Ref": "EnableBackupLog"
        },
        "SQLCollectorStatus": {
          "Ref": "SQLCollectorStatus"
        },
        "BackupRetentionPeriod": {
          "Ref": "BackupRetentionPeriod"
        }
      }
    }
  },
  "Outputs": {
    "InnerConnectionString": {
      "Description": "DB instance connection url by Intranet.",
      "Value": {
```

```
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "InnerConnectionString"
          ]
        }
      },
      "DBInstanceId": {
        "Description": "The instance id of created database instance.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "DBInstanceId"
          ]
        }
      },
      "InnerIPAddress": {
        "Description": "IP Address for created DB instance of Intranet.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "InnerIPAddress"
          ]
        }
      },
      "PublicConnectionString": {
        "Description": "DB instance connection url by Internet.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "PublicConnectionString"
          ]
        }
      },
      "PublicIPAddress": {
        "Description": "IP Address for created DB instance of Internet.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "PublicIPAddress"
          ]
        }
      },
      "OrderId": {
        "Description": "The order id list of created instance.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "OrderId"
          ]
        }
      },
      "PublicPort": {
        "Description": "Internet port of created DB instance.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "PublicPort"
          ]
        }
      },
      "InnerPort": {
        "Description": "Intranet port of created DB instance.",
        "Value": {
          "Fn::GetAtt": [
            "PrepayDBInstance",
            "InnerPort"
          ]
        }
      }
    }
  }
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AllocatePublicConnection:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: If true, allocate public connection automate.
    Type: Boolean
  ArchiveBackupKeepCount:
    Description: "The number of archived backups that can be retained. Default value:\
      \ 1. Valid values: \nThe value of this parameter ranges from 1 to 31 when the\
      \ ArchiveBackupKeepPolicy \n parameter is set to ByMonth. \nThe value of this\
      \ parameter ranges from 1 to 7 when the ArchiveBackupKeepPolicy \n parameter\
      \ is set to ByWeek. \nNote You do not need to specify this parameter when the\
      \ ArchiveBackupKeepPolicy \nparameter is set to KeepAll."
    MaxValue: 31
    MinValue: 1
    Type: Number
  ArchiveBackupKeepPolicy:
    AllowedValues:
    - ByMonth
    - ByWeek
    - KeepAll
    Description: "The period for which to retain archived backups. The number of archived\
      \ backups that can \n be retained within the specified period is determined\
      \ by the ArchiveBackupKeepCount parameter. \n Default value: 0. Valid values:\
      \ \nByMonth \n ByWeek \n KeepAll"
    Type: String
  ArchiveBackupRetentionPeriod:
    Description: "The number of days for which to retain archived backups. \n The\
      \ default value 0 specifies not to enable the backup archiving function. Valid\
      \ values: 30 to 1095."
    MaxValue: 1095
    MinValue: 30
    Type: Number
  AutoPay:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: Automatic Payment. Default is false.
    Type: Boolean
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: Auto renew the prepay instance. If the period type is by year, it
      will renew by year, else it will renew by month.
    Type: Boolean
  BackUpCategory:
    AllowedValues:
    - Flash
    - Standard
    Description: "Specifies whether to enable the second-level backup function. This\
      \ function allows a backup \nto be completed within seconds. Valid values: \n\
      Flash: specifies to enable the second-level backup function. \n Standard: specifies\
      \ to disable the second-level backup function."
    Type: String
  BackupPolicyMode:
    AllowedValues:
    - DataBackupPolicy
    - LogBackupPolicy
    Description: "Backup type, \nDataBackupPolicy: data backup \nLogBackupPolicy:\
      \ log backup"
    Type: String
```

```
  BackupRetentionPeriod:
    Default: 7
    Description: 'The retention period of the data backup. Value range: 7 to 730.
      The default value is the original value. Note When the BackupPolicyMode parameter
      is set to LogBackupPolicy, this parameter is required.'
    Type: Number
  Category:
    AllowedValues:
    - Basic
    - HighAvailability
    - AlwaysOn
    - Finance
    Description: 'The edition of the instance. Valid values:
      Basic: specifies to use the Basic Edition.
      HighAvailability: specifies to use the High-availability Edition.
      AlwaysOn: specifies to use the Cluster Edition.
      Finance: specifies to use the Enterprise Edition.'
    Type: String
  CommodityCode:
    AllowedValues:
    - rds
    - bards
    - rords
    Default: rds
    Description: The CommodityCode of the order.
    Type: String
  CompressType:
    Description: "The format used to compress backups. Valid values: \n 1: The zlib\
      \ tool is used to compress backups into .tar.gz files. \n 4: The QuickLZ tool\
      \ is used to compress backups into .xb.gz files. \nThis compression format is\
      \ supported only when the instance runs MySQL 5.6 or 5.7. \nIt can be used to\
      \ restore individual databases and tables. \n 8: The QuickLZ tool is used to\
      \ compress backups into .xb.gz files. \n This compression format is supported\
      \ only when the instance runs MySQL 8.0. \nIt cannot be used to restore individual\
      \ databases or tables."
    Type: Number
  ConnectionMode:
    Description: 'Connection Mode for database instance,support ''Standard'' and ''Safe''
      mode. Default is RDS system assigns. '
    Type: String
  ConnectionStringPrefix:
    AllowedPattern: '[a-zA-Z0-9-]{8,64}'
    Description: "The prefix of the endpoint. \nOnly the prefix of the CurrentConnectionString\
      \ parameter value can be modified.\nThe prefix must be 8 to 64 characters in\
      \ length and can contain letters, digits, and hyphens (-). "
    Type: String
  ConnectionStringType:
    AllowedValues:
    - Inner
    - Public
    Default: Inner
    Description: 'The endpoint type of the instance, allow values: Inner, Public'
    Type: String
  CouponCode:
    Description: The coupon code of the order.
    Type: String
  DBInstanceClass:
    Description: Database instance type. Refer the RDS database instance type reference,
      such as 'rds.mys2.large', 'rds.mss1.large', 'rds.pg.s1.small' etc
    Type: String
  DBInstanceDescription:
    Description: Description of created database instance.
    Type: String
  DBInstanceNetType:
    AllowedValues:
    - Internet
    - Intranet
    Default: Intranet
    Description: Database instance net type, default is Intranet.Internet for public
      access, Intranet for private access.
    Type: String
  DBInstanceStorage:
    Description: Database instance storage size. mysql is [5,1000]. sql server 2008r2
      is [10,1000], sql server 2012/2012_web/2016-web is [20,1000]. PostgreSQL and
```

```
      PPAS is [5,2000]. Increased every 5 GB, Unit in GB
    Type: Number
  DBInstanceStorageType:
    Description: 'The storage type of the instance. Valid values:
      local_ssd: specifies to use local SSDs. This is the recommended storage type.
      cloud_ssd: specifies to use standard SSDs.
      cloud_essd: specifies to use enhanced SSDs.'
    Type: String
  DBIsIgnoreCase:
    Description: 'Specifies whether table names are case-sensitive. Valid values:
      1: Table names are not case-sensitive. This is the default value.
      0: Table names are case-sensitive.'
    Type: Number
  DBMappings:
    Description: Database mappings to attach to db instance.
    Type: Json
  DBParamGroupId:
    Description: The ID of the parameter template used by the instance.
    Type: String
  DBTimeZone:
    Description: 'The UTC time zone of the instance. Valid values: -12:00 to +12:00.
      The time zone must be an integer value such as +08:00. Values such as +08:30
      are not allowed.'
    Type: String
  DedicatedHostGroupId:
    Description: The ID of the host group to which the instance belongs if you create
      an instance in a host group.
    Type: String
  EnableBackupLog:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "Specifies whether to enable the log backup function. Valid values:\
      \ \nTrue: specifies to enable the log backup function. \nFalse: specifies to\
      \ disable the log backup function. \nNote You must specify this parameter when\
      \ the BackupPolicyMode parameter is set to LogBackupPolicy."
    Type: Boolean
  EncryptionKey:
    Description: The ID of the encryption key that is used to encrypt data on SSDs
      in the region. You can view the encryption key ID in the Key Management Service
      (KMS) console. You can also create an encryption key.
    Type: String
  Engine:
    AllowedValues:
    - MySQL
    - SQLServer
    - PostgreSQL
    - PPAS
    - MariaDB
    Description: Database instance engine type. Support MySQL/SQLServer/PostgreSQL/PPAS/MariaDB
      now.
    Type: String
  EngineVersion:
    Description: 'Database instance version of the relative engine type.Support MySQL:
      5.5/5.6/5.7/8.0;
      SQLServer: 2008r2/2012/2012_ent_ha/2012_std_ha/2012_web/2016_ent_ha/2016_std_ha/2016_web/2017_std_ha/2017_ent;
      PostgreSQL: 9.4/10.0/11.0/12.0;
      PPAS: 9.3/10.0;
      MariaDB: 10.3.'
    Type: String
  HighSpaceUsageProtection:
    AllowedValues:
    - Enable
    - Disable
    Description: "Specifies whether to forcibly delete log backup files when the space\
      \ usage of the \n instance exceeds 80% or the remaining space is less than 5\
      \ GB. Valid values: \n Enable and Disable. You can retain the default value.\
      \ Note You must specify \n this parameter when the BackupPolicyMode parameter\
      \ is set to LogBackupPolicy."
    Type: String
  LocalLogRetentionHours:
    Description: "The number of hours for which to retain log backup files on the\
      \ instance. \nValid values: 0 to 168. The value 0 specifies not to retain log\
```

```
      \ instance. \nValid values: 0 to 168. The value 0 specifies not to retain log\
      \ backup files on the instance. \nYou can retain the default value. Note You\
      \ must specify this parameter when the BackupPolicyMode \nparameter is set to\
      \ LogBackupPolicy."
    MaxValue: 168
    MinValue: 0
    Type: Number
  LocalLogRetentionSpace:
    Description: "The maximum percentage of space that is allowed to store log backup\
      \ files on the instance. \n If the space usage for log backup files exceeds\
      \ this percentage, the system deletes earlier \n log backup files until the\
      \ space usage falls below this percentage. Valid values:0 to 50. \n You can\
      \ retain the default value. Note You must specify this parameter when the \n\
      \ BackupPolicyMode parameter is set to LogBackupPolicy."
    MaxValue: 50
    MinValue: 0
    Type: Number
  LogBackupFrequency:
    Description: "The frequency at which to back up logs. Valid values: \nThe value\
      \ LogInterval specifies to back up logs every 30 minutes. \n The default value\
      \ of this parameter is the same as the data backup frequency. \nNote The value\
      \ LogInterval is supported only when the instance runs SQL Server."
    Type: String
  LogBackupLocalRetentionNumber:
    Description: "The number of log backup files that can be retained on the instance.\
      \ \nDefault value: 60. Valid values: 6 to 100."
    MaxValue: 100
    MinValue: 6
    Type: Number
  LogBackupRetentionPeriod:
    Description: "The number of days for which to retain log backup files. Valid values:\
      \ 7 to 730. The log backup \n retention period cannot be longer than the data\
      \ backup retention period. Note If you enable the log \n backup function, you\
      \ can specify the log backup retention period. This applies only when the \n\
      \ instance runs MySQL, PostgreSQL, or PPAS."
    MaxValue: 730
    MinValue: 7
    Type: Number
  MaintainTime:
    Description: The period during which the maintenance performs. The format is HH:mmZ-HH:mmZ.
    Type: String
  MasterUserPassword:
    Description: 'The master password for the database instance. '
    MaxLength: 32
    MinLength: 8
    Type: String
  MasterUserType:
    AllowedValues:
    - Normal
    - Super
    - Sysadmin
    Default: Normal
    Description: "Privilege type of account.\n Normal: Common privilege. \n Super:\
      \ High privilege. \nSysadmin: Super privileges (SA) (only supported by SQL Server)\n\
      The default value is Normal."
    Type: String
  MasterUsername:
    Description: 'The master user name for the database instance. '
    Type: String
  MultiAZ:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Specifies if the database instance is a multiple Availability Zone
      deployment. '
    Type: Boolean
  Period:
    Default: 1
    Description: Prepaid time period. While choose by pay by month, it could be from
      1 to 9. While choose pay by year, it could be from 1 to 3.
    MaxValue: 9
    MinValue: 1
```

```
    MinValue: 1
    Type: Number
  PeriodType:
    AllowedValues:
    - Month
    - Year
    Default: Month
    Description: Charge period for created instances.
    Type: String
  Port:
    Description: The port of the database service.
    MaxValue: 65535
    MinValue: 1
    Type: Number
  PreferredBackupPeriod:
    Description: The backup period. Separate multiple values with commas (,). The
      default value is the original value. Valid values:Monday Tuesday Wednesday Thursday
      Friday Saturday Sunday Note When the BackupPolicyMode parameter is set to DataBackupPolicy,
      this parameter is required.
    Type: CommaDelimitedList
  PreferredBackupTime:
    Description: 'The time when the backup task is performed. Format: yyyy-MM-ddZ-HH:mm:ssZ.Note
      When the BackupPolicyMode parameter is set to DataBackupPolicy, this parameter
      is required.'
    Type: String
  PrivateIpAddress:
    Description: The private ip for created instance.
    Type: String
  Quantity:
    Default: 1
    Description: The number of instance to be created, default is 1, max number is
      99
    MaxValue: 99
    MinValue: 1
    Type: Number
  ReleasedKeepPolicy:
    AllowedValues:
    - Lastest
    - All
    Description: "The policy used to retain archived backups if the instance is released.\
      \ Default value: None. \n Valid values: \nLastest: Only the last archived backup\
      \ is retained. \n All: All of the archived backups are retained."
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  RoleARN:
    Description: The Alibaba Cloud Resource Name (ARN) provided to the service account
      of the instance by your Alibaba Cloud account to connect to KMS. You can copy
      the ARN from the RAM console.
    Type: String
  SQLCollectorStatus:
    AllowedValues:
    - Enable
    - Disabled
    Description: "Specifies whether to enable or disable the SQL Explorer (SQL audit)\
      \ feature. \nValid values:Enable | Disabled."
    Type: String
  SSLSetting:
    AllowedValues:
    - Disabled
    - EnabledForPublicConnection
    - EnabledForInnerConnection
    Default: Disabled
    Description: 'Secure Sockets Layer (SSL) link setting of the instance. Valid values:
      Disabled: Disable SSL
      EnabledForPublicConnection: Public connection address will be protected by the
      SSL certificate. It requires AllocatePublicConnection is true.
      EnabledForInnerConnection: Private connection address will be protected by the
      SSL certificate.
      Default value is Disabled.'
    Type: String
  SecurityGroupId:
    Description: "The ID of the ECS security groups. \nEach RDS instance can be associated\
      \ with up to three ECS security groups. \nYou must separate them with commas\
```

```
      \ (,). \nTo delete an ECS Security group, leave this parameter empty. \n"
    Type: String
  SlaveZoneIds:
    Description: List of slave zone ids can specify slave zone ids when creating the
      high-availability or enterprise edition instance. Meanwhile, VSwitchId needs
      to pass in the corresponding vswitch id to the slave zone by order. For example,
      ZoneId = "zone-a" and SlaveZoneIds = ["zone-c", "zone-b"], then the VSwitchId
      must be "vsw-zone-a,vsw-zone-c,vsw-zone-b". Of course, you can also choose automatic
      allocation, for example, ZoneId = "zone-a" and SlaveZoneIds = ["Auto", "Auto"],
      then the VSwitchId must be "vsw-zone-a,Auto,Auto". The list contains up to 2
      slave zone ids, separated by commas.
    MaxLength: 2
    Type: Json
  Tags:
    Description: 'The tags of an instance.
      You should input the information of the tag with the format of the Key-Value,
      such as {"key1":"value1","key2":"value2", ... "key5":"value5"}.
      At most 5 tags can be specified.
      Key
      It can be up to 64 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Cannot be a null string.
      Value
      It can be up to 128 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Can be a null string.'
    Type: Json
  TargetDedicatedHostIdForLog:
    Description: The ID of the host to which the instance belongs if you create a
      log instance in a host group.
    Type: String
  TargetDedicatedHostIdForMaster:
    Description: The ID of the host to which the instance belongs if you create a
      primary instance in a host group.
    Type: String
  TargetDedicatedHostIdForSlave:
    Description: The ID of the host to which the instance belongs if you create a
      secondary instance in a host group.
    Type: String
  VSwitchId:
    Description: The vSwitch id of created instance. For VPC network, the property
      is required.
    Type: String
  VpcId:
    Description: The VPC id of created database instance. For VPC network, the property
      is required.
    Type: String
  ZoneId:
    Description: selected zone to create database instance. You cannot set the ZoneId
      parameter if the MultiAZ parameter is set to true.
    Type: String
Resources:
  PrepayDBInstance:
    Properties:
      AllocatePublicConnection:
        Ref: AllocatePublicConnection
      ArchiveBackupKeepCount:
        Ref: ArchiveBackupKeepCount
      ArchiveBackupKeepPolicy:
        Ref: ArchiveBackupKeepPolicy
      ArchiveBackupRetentionPeriod:
        Ref: ArchiveBackupRetentionPeriod
      AutoPay:
        Ref: AutoPay
      AutoRenew:
        Ref: AutoRenew
      BackUpCategory:
        Ref: BackUpCategory
      BackupPolicyMode:
        Ref: BackupPolicyMode
      BackupRetentionPeriod:
        Ref: BackupRetentionPeriod
```

```
      Category:
        Ref: Category
      CommodityCode:
        Ref: CommodityCode
      CompressType:
        Ref: CompressType
      ConnectionMode:
        Ref: ConnectionMode
      ConnectionStringPrefix:
        Ref: ConnectionStringPrefix
      ConnectionStringType:
        Ref: ConnectionStringType
      CouponCode:
        Ref: CouponCode
      DBInstanceClass:
        Ref: DBInstanceClass
      DBInstanceDescription:
        Ref: DBInstanceDescription
      DBInstanceNetType:
        Ref: DBInstanceNetType
      DBInstanceStorage:
        Ref: DBInstanceStorage
      DBInstanceStorageType:
        Ref: DBInstanceStorageType
      DBIsIgnoreCase:
        Ref: DBIsIgnoreCase
      DBMappings:
        Ref: DBMappings
      DBParamGroupId:
        Ref: DBParamGroupId
      DBTimeZone:
        Ref: DBTimeZone
      DedicatedHostGroupId:
        Ref: DedicatedHostGroupId
      EnableBackupLog:
        Ref: EnableBackupLog
      EncryptionKey:
        Ref: EncryptionKey
      Engine:
        Ref: Engine
      EngineVersion:
        Ref: EngineVersion
      HighSpaceUsageProtection:
        Ref: HighSpaceUsageProtection
      LocalLogRetentionHours:
        Ref: LocalLogRetentionHours
      LocalLogRetentionSpace:
        Ref: LocalLogRetentionSpace
      LogBackupFrequency:
        Ref: LogBackupFrequency
      LogBackupLocalRetentionNumber:
        Ref: LogBackupLocalRetentionNumber
      LogBackupRetentionPeriod:
        Ref: LogBackupRetentionPeriod
      MaintainTime:
        Ref: MaintainTime
      MasterUserPassword:
        Ref: MasterUserPassword
      MasterUserType:
        Ref: MasterUserType
      MasterUsername:
        Ref: MasterUsername
      MultiAZ:
        Ref: MultiAZ
      Period:
        Ref: Period
      PeriodType:
        Ref: PeriodType
      Port:
        Ref: Port
      PreferredBackupPeriod:
        Ref: PreferredBackupPeriod
      PreferredBackupTime:
        Ref: PreferredBackupTime
```

```
      PrivateIpAddress:
        Ref: PrivateIpAddress
      Quantity:
        Ref: Quantity
      ReleasedKeepPolicy:
        Ref: ReleasedKeepPolicy
      ResourceGroupId:
        Ref: ResourceGroupId
      RoleARN:
        Ref: RoleARN
      SQLCollectorStatus:
        Ref: SQLCollectorStatus
      SSLSetting:
        Ref: SSLSetting
      SecurityGroupId:
        Ref: SecurityGroupId
      SlaveZoneIds:
        Ref: SlaveZoneIds
      Tags:
        Ref: Tags
      TargetDedicatedHostIdForLog:
        Ref: TargetDedicatedHostIdForLog
      TargetDedicatedHostIdForMaster:
        Ref: TargetDedicatedHostIdForMaster
      TargetDedicatedHostIdForSlave:
        Ref: TargetDedicatedHostIdForSlave
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::RDS::PrepayDBInstance
Outputs:
  DBInstanceId:
    Description: The instance id of created database instance.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - DBInstanceId
  InnerConnectionString:
    Description: DB instance connection url by Intranet.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - InnerConnectionString
  InnerIPAddress:
    Description: IP Address for created DB instance of Intranet.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - InnerIPAddress
  InnerPort:
    Description: Intranet port of created DB instance.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - InnerPort
  OrderId:
    Description: The order id list of created instance.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - OrderId
  PublicConnectionString:
    Description: DB instance connection url by Internet.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - PublicConnectionString
  PublicIPAddress:
    Description: IP Address for created DB instance of Internet.
    Value:
      Fn::GetAtt:
```

```
      - PrepayDBInstance
      - PublicIPAddress
  PublicPort:
    Description: Internet port of created DB instance.
    Value:
      Fn::GetAtt:
      - PrepayDBInstance
      - PublicPort
```

57.10. ALIYUN::RDS::ReadOnlyDBInstance

ALIYUN::RDS::ReadOnlyDBInstance is used to create a read-only ApsaraDB RDS instance.

Syntax

```
{
  "Type": "ALIYUN::RDS::ReadOnlyDBInstance",
  "Properties": {
    "Category": String,
    "VPCId": String,
    "DBInstanceDescription": String,
    "Tags": Map,
    "EngineVersion": String,
    "DBInstanceId": String,
    "PayType": String,
    "ZoneId": String,
    "ResourceGroupId": String,
    "DBInstanceStorage": Integer,
    "VSwitchId": String,
    "DBInstanceStorageType": String,
    "DBInstanceClass": String,
    "PrivateIpAddress": String,
    "PeriodType": String,
    "Period": Integer,
    "AutoRenew": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Category	String	No	No	The edition of the read-only instance.	Default value: HighAvailability. Valid values: • Basic: Basic Edition • HighAvailability: High-availability Edition. • AlwaysOn: Cluster Edition
VPCId	String	No	No	The ID of the virtual private cloud (VPC) in which the read-only instance runs.	None
DBInstanceDescription	String	No	No	The description of the read-only instance.	The description must be 2 to 256 characters in length It must start with a letter and cannot start with `http://` or `https://`. It can contain letters, digits, underscores (_), and hyphens (-).

Property	Type	Required	Editable	Description	Constraint
Tags	Map	No	Yes	The tags of the read-only instance.	The tags are in the key-value pair format. For example: `{"key1": "value1","key2": "value2", ... "key5": "value5"}` A maximum of five key-value pairs can be specified. A tag key can be up to 64 characters in length and cannot start with `http://` or `https://`. A tag value can be up to 128 characters in length and cannot start with `aliyun`, `http://`, or `https://`.

EngineVersion	String	Yes	No	The database engine version of the read-only instance.	The database engine version of the read-only instance must be the same as that of the primary instance.
					
					Valid values:
					• Valid values when the database engine is MySQL:
					  ○ 5.6
					  ○ 5.7
					  ○ 8.0
					• Valid values when the database engine is SQL Server: 2017_ent

DBInstanceId	String	Yes	No	The ID of the primary instance.	None
PayType	String	No	No	The billing method of the read-only instance.	Only the pay-as-you-go billing method is supported. Set the value to Postpaid.
ZoneId	String	Yes	No	The ID of the zone in which to create the read-only instance.	You can call the DescribeRegions operation to query the most recent list of zones.
ResourceGroupId	String	No	No	The ID of the resource group.	None
DBInstanceStorage	Integer	Yes	Yes	The storage capacity of the read-only instance.	Unit: GB. Valid values: 5 to 3000. This value must be a multiple of 5. Instances of different versions have different value ranges. For more information, see Primary ApsaraDB RDS instance types.
VSwitchId	String	No	No	The ID of the vSwitch of the read-only instance.	None

Property	Type	Required	Editable	Description	Constraint
DBInstanceStorageType	String	No	No	The storage type of the read-only instance.	Valid values: • local_ssd or ephemeral_ssd: local SSD • cloud_ssd: standard SSD • cloud_essd: enhanced SSD (ESSD) **Note** A read-only MySQL instance can only use local SSDs, and a read-only SQL Server instance can only use standard SSDs or enhanced SSDs.
DBInstanceClass	String	Yes	Yes	The instance type of the read-only instance.	For more information, see Primary ApsaraDB RDS instance types. We recommend that you specify an instance type higher than or equal to that of the primary instance. If the instance type of the read-only instance is lower than that of the primary instance, the read-only instance may encounter issues such as high latency and heavy load.
PrivateIpAddress	String	No	No	The private IP address of the read-only instance.	It must be within the IP address range of the specified vSwitch. The system automatically assigns a private IP address to the instance based on the values of the VPCId and VSwitchId parameters.
PeriodType	String	No	No	The unit of the subscription period of the read-only instance.	Valid values: • Year • Month
Period	Integer	No	No	The subscription period of the read-only instance.	Valid values: • Valid values when PeriodType is set to Year: 1 to 3. • Valid values when PeriodType is set to Month: 1 to 9.
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the read-only instance.	This parameter is required only when the read-only instance uses the subscription billing method. Default value: false. Valid values: • true: enables auto-renewal. • False: disables auto-renewal. **Note** • If you set the PeriodType parameter to Month, the auto-renewal cycle is one month. • If you set the PeriodType parameter to Year, the auto-renewal cycle is one year.

Response parameters

Fn::GetAtt

- ConnectionString: the internal endpoint of the read-only instance.
- DBInstanceId: the ID of the read-only instance.

- Port: the internal port of the read-only instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances.",
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "Category": {
      "Type": "String",
      "Description": "The edition of the instance. Valid values:\n- Basic\n- HighAvailability\n- AlwaysOn",
      "AllowedValues": [
        "Basic",
        "HighAvailability",
        "AlwaysOn"
      ]
    },
    "EngineVersion": {
      "Type": "String",
      "Description": "The version of the database. The database and the master instance must have the same database version. Va
lid values:\n- 5.6\n- 5.7\n- 8.0\n- 2017_ent",
      "AllowedValues": [
        "5.6",
        "5.7",
        "8.0",
        "2017_ent"
      ]
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "The private IP address of the read-only instance. It must be within the IP address range provided by the
switch. The system automatically assigns an IP address based on the VPCId and VSwitchId by default."
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The ID of the zone. You can call the DescribeRegions API operation to view the latest zones."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "VPCId": {
      "Type": "String",
      "Description": "The ID of the VPC."
    },
    "DBInstanceClass": {
      "Type": "String",
      "Description": "The type of the instance. For more information, see Instance type list. The type of the read-only instanc
e must be no less than that of the master instance. Otherwise, the read-only instance incurs high latency and high load."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The ID of the VSwitch."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable auto-renewal. Valid values: true and false. Note\n:Monthly subscription: The
auto-renewal cycle is one month.\nAnnual subscription: The auto-renewal cycle is one year.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    }
```

```
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. While choose by pay by month, it could be from 1 to 9. While choose pay by year, it
could be from 1 to 3.",
      "MinValue": 1,
      "MaxValue": 9,
      "Default": 1
    },
    "PayType": {
      "Type": "String",
      "Description": "The billing method. Valid value: Postpaid, Prepaid.",
      "AllowedValues": [
        "Prepaid",
        "Postpaid"
      ],
      "Default": "Postpaid"
    },
    "DBInstanceStorageType": {
      "Type": "String",
      "Description": "The storage type of the instance. Valid values:\n- local_ssd/ephemeral_ssd: local SSDs.\n- cloud_ssd: SSD
s.\n- cloud_essd: ESSDs.",
      "AllowedValues": [
        "local_ssd",
        "ephemeral_ssd",
        "cloud_ssd",
        "cloud_essd"
      ]
    },
    "DBInstanceId": {
      "Type": "String",
      "Description": "The ID of the master instance."
    },
    "DBInstanceStorage": {
      "Type": "Number",
      "Description": "The storage space of the instance. Value range: 5 to 3000. The value must be a multiple of 5. Unit: GB."
    },
    "DBInstanceDescription": {
      "Type": "String",
      "Description": "Description of created database instance."
    },
    "Tags": {
      "Type": "Json",
      "Description": "The tags of an instance.\nYou should input the information of the tag with the format of the Key-Value, s
uch as {\"key1\":\"value1\",\"key2\":\"value2\", ... \"key5\":\"value5\"}.\nAt most 5 tags can be specified.\nKey\nIt can be up
to 64 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCannot be a null string.\nValue
\nIt can be up to 128 characters in length.\nCannot begin with aliyun.\nCannot begin with http:// or https://.\nCan be a null s
tring."
    }
  },
  "Resources": {
    "ReadOnlyDBInstance": {
      "Type": "ALIYUN::RDS::ReadOnlyDBInstance",
      "Properties": {
        "PeriodType": {
          "Ref": "PeriodType"
        },
        "Category": {
          "Ref": "Category"
        },
        "EngineVersion": {
          "Ref": "EngineVersion"
        },
        "PrivateIpAddress": {
          "Ref": "PrivateIpAddress"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "VPCId": {
          "Ref": "VPCId"
        },
```

```
        },
        "DBInstanceClass": {
          "Ref": "DBInstanceClass"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "Period": {
          "Ref": "Period"
        },
        "PayType": {
          "Ref": "PayType"
        },
        "DBInstanceStorageType": {
          "Ref": "DBInstanceStorageType"
        },
        "DBInstanceId": {
          "Ref": "DBInstanceId"
        },
        "DBInstanceStorage": {
          "Ref": "DBInstanceStorage"
        },
        "DBInstanceDescription": {
          "Ref": "DBInstanceDescription"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Description": "The instance id of created database instance.",
      "Value": {
        "Fn::GetAtt": [
          "ReadOnlyDBInstance",
          "DBInstanceId"
        ]
      }
    },
    "Port": {
      "Description": "Intranet port of created DB instance.",
      "Value": {
        "Fn::GetAtt": [
          "ReadOnlyDBInstance",
          "Port"
        ]
      }
    },
    "ConnectionString": {
      "Description": "DB instance connection url by Intranet.",
      "Value": {
        "Fn::GetAtt": [
          "ReadOnlyDBInstance",
          "ConnectionString"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoRenew:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
```

```
    - 'false'
    Description: 'Specifies whether to enable auto-renewal. Valid values: true and
      false. Note
      :Monthly subscription: The auto-renewal cycle is one month.
      Annual subscription: The auto-renewal cycle is one year.'
    Type: Boolean
  Category:
    AllowedValues:
    - Basic
    - HighAvailability
    - AlwaysOn
    Description: 'The edition of the instance. Valid values:
      - Basic
      - HighAvailability
      - AlwaysOn'
    Type: String
  DBInstanceClass:
    Description: The type of the instance. For more information, see Instance type
      list. The type of the read-only instance must be no less than that of the master
      instance. Otherwise, the read-only instance incurs high latency and high load.
    Type: String
  DBInstanceDescription:
    Description: Description of created database instance.
    Type: String
  DBInstanceId:
    Description: The ID of the master instance.
    Type: String
  DBInstanceStorage:
    Description: 'The storage space of the instance. Value range: 5 to 3000. The value
      must be a multiple of 5. Unit: GB.'
    Type: Number
  DBInstanceStorageType:
    AllowedValues:
    - local_ssd
    - ephemeral_ssd
    - cloud_ssd
    - cloud_essd
    Description: 'The storage type of the instance. Valid values:
      - local_ssd/ephemeral_ssd: local SSDs.
      - cloud_ssd: SSDs.
      - cloud_essd: ESSDs.'
    Type: String
  EngineVersion:
    AllowedValues:
    - '5.6'
    - '5.7'
    - '8.0'
    - 2017_ent
    Description: 'The version of the database. The database and the master instance
      must have the same database version. Valid values:
      - 5.6
      - 5.7
      - 8.0
      - 2017_ent'
    Type: String
  PayType:
    AllowedValues:
    - Prepaid
    - Postpaid
    Default: Postpaid
    Description: 'The billing method. Valid value: Postpaid, Prepaid.'
    Type: String
  Period:
    Default: 1
    Description: Prepaid time period. While choose by pay by month, it could be from
      1 to 9. While choose pay by year, it could be from 1 to 3.
    MaxValue: 9
    MinValue: 1
    Type: Number
  PeriodType:
    AllowedValues:
    - Month
    - Year
    Default: Month
```

```
    Description: Charge period for created instances.
    Type: String
  PrivateIpAddress:
    Description: The private IP address of the read-only instance. It must be within
      the IP address range provided by the switch. The system automatically assigns
      an IP address based on the VPCId and VSwitchId by default.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  Tags:
    Description: 'The tags of an instance.
      You should input the information of the tag with the format of the Key-Value,
      such as {"key1":"value1","key2":"value2", ... "key5":"value5"}.
      At most 5 tags can be specified.
      Key
      It can be up to 64 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Cannot be a null string.
      Value
      It can be up to 128 characters in length.
      Cannot begin with aliyun.
      Cannot begin with http:// or https://.
      Can be a null string.'
    Type: Json
  VPCId:
    Description: The ID of the VPC.
    Type: String
  VSwitchId:
    Description: The ID of the VSwitch.
    Type: String
  ZoneId:
    Description: The ID of the zone. You can call the DescribeRegions API operation
      to view the latest zones.
    Type: String
Resources:
  ReadOnlyDBInstance:
    Properties:
      AutoRenew:
        Ref: AutoRenew
      Category:
        Ref: Category
      DBInstanceClass:
        Ref: DBInstanceClass
      DBInstanceDescription:
        Ref: DBInstanceDescription
      DBInstanceId:
        Ref: DBInstanceId
      DBInstanceStorage:
        Ref: DBInstanceStorage
      DBInstanceStorageType:
        Ref: DBInstanceStorageType
      EngineVersion:
        Ref: EngineVersion
      PayType:
        Ref: PayType
      Period:
        Ref: Period
      PeriodType:
        Ref: PeriodType
      PrivateIpAddress:
        Ref: PrivateIpAddress
      ResourceGroupId:
        Ref: ResourceGroupId
      Tags:
        Ref: Tags
      VPCId:
        Ref: VPCId
      VSwitchId:
        Ref: VSwitchId
      ZoneId:
        Ref: ZoneId
    Type: ALIYUN::RDS::ReadOnlyDBInstance
Outputs:
```

```
Outputs:
  ConnectionString:
    Description: DB instance connection url by Intranet.
    Value:
      Fn::GetAtt:
      - ReadOnlyDBInstance
      - ConnectionString
  DBInstanceId:
    Description: The instance id of created database instance.
    Value:
      Fn::GetAtt:
      - ReadOnlyDBInstance
      - DBInstanceId
  Port:
    Description: Intranet port of created DB instance.
    Value:
      Fn::GetAtt:
      - ReadOnlyDBInstance
      - Port
```

To view more examples, visit DBInstance.json and DBInstance.yml. In the examples, the following resource types are involved: ALIYUN::RDS::DBInstance, ALIYUN::RDS::Account, ALIYUN::RDS::AccountPrivilege, ALIYUN::RDS::DBInstanceParameterGroup, ALIYUN::RDS::DBInstanceSecurityIps, and ALIYUN::RDS::Database.

58.ResourceManager

58.1. ALIYUN::ResourceManager::ResourceDirectory

ALIYUN::ResourceManager::ResourceDirectory is used to enable a resource directory. After you enable a resource directory, the system creates a root folder and sets the current account as the master account. The master account has all administrative permissions on this resource directory.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::ResourceDirectory",
  "Properties": {}
}
```

Properties

None

Response parameters

Fn::GetAtt

- ResourceDirectoryId: the ID of the resource directory.
- MasterAccountName: the name of the master account.
- CreateTime: the time when the resource directory was enabled.
- RootFolderId: the ID of the root folder.
- MasterAccountId: the ID of the master account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ResourceManagerResourceDirectory": {
      "Type": "ALIYUN::ResourceManager::ResourceDirectory",
      "Properties": {}
    }
  },
  "Outputs": {
    "ResourceDirectoryId": {
      "Description": "The ID of the resource directory",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceDirectory",
          "ResourceDirectoryId"
        ]
      }
    },
    "MasterAccountName": {
      "Description": "The name of the master account",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceDirectory",
          "MasterAccountName"
        ]
      }
    },
    "CreateTime": {
      "Description": "The time when the resource directory was created",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceDirectory",
          "CreateTime"
        ]
      }
    },
    "RootFolderId": {
      "Description": "The ID of the root folder",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceDirectory",
          "RootFolderId"
        ]
      }
    },
    "MasterAccountId": {
      "Description": "The ID of the master account",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceDirectory",
          "MasterAccountId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  ResourceManagerResourceDirectory:
    Type: 'ALIYUN::ResourceManager::ResourceDirectory'
    Properties: {}
Outputs:
  ResourceDirectoryId:
    Description: The ID of the resource directory
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceDirectory
        - ResourceDirectoryId
  MasterAccountName:
    Description: The name of the master account
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceDirectory
        - MasterAccountName
  CreateTime:
    Description: The time when the resource directory was created
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceDirectory
        - CreateTime
  RootFolderId:
    Description: The ID of the root folder
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceDirectory
        - RootFolderId
  MasterAccountId:
    Description: The ID of the master account
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceDirectory
        - MasterAccountId
```

58.2. ALIYUN::ResourceManager::Account

ALIYUN::ResourceManager::Account is used to create a resource account as a member account.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::Account",
  "Properties": {
    "PayerAccountId": String,
    "DisplayName": String,
    "FolderId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PayerAccountId	String	No	No	The ID of the settlement account.	If this parameter is left empty, the current account is used for settlement.

Property	Type	Required	Editable	Description	Constraint
DisplayName	String	Yes	Yes	The name of the member account.	The name must be 2 to 50 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-). The name must be unique in the current resource directory.
FolderId	String	No	Yes	The ID of the folder.	None

Response parameters

Fn::GetAtt

- FolderId: the ID of the folder.
- ResourceDirectoryId: the ID of the resource directory.
- AccountId: the ID of the member account.
- DisplayName: the name of the member account.
- Type: the type of the member account. ResourceAccount indicates that a resource account is created as the member account.
- JoinMethod: the method for the member account to join the resource directory. invited indicates that the member account is invited. created indicates that the member account is created.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PayerAccountId": {
      "Type": "String",
      "Description": ""
    },
    "DisplayName": {
      "Type": "String",
      "Description": "Member name"
    },
    "FolderId": {
      "Type": "String",
      "Description": "The ID of the parent folder"
    }
  },
  "Resources": {
    "ResourceManagerAccount": {
      "Type": "ALIYUN::ResourceManager::Account",
      "Properties": {
        "PayerAccountId": {
          "Ref": "PayerAccountId"
        },
        "DisplayName": {
          "Ref": "DisplayName"
        },
        "FolderId": {
          "Ref": "FolderId"
        }
      }
    }
  },
  "Outputs": {
    "JoinMethod": {
      "Description": "Ways for members to join the resource directory. Valid values: invited, created",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerAccount",
          "JoinMethod"
        ]
      }
```

```
    },
    "ResourceDirectoryId": {
      "Description": "Resource directory ID",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerAccount",
          "ResourceDirectoryId"
        ]
      }
    },
    "Type": {
      "Description": "Member type. The value of ResourceAccount indicates the resource account",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerAccount",
          "Type"
        ]
      }
    },
    "AccountId": {
      "Description": "This ID of Resource Manager Account",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerAccount",
          "AccountId"
        ]
      }
    },
    "DisplayName": {
      "Description": "Member name",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerAccount",
          "DisplayName"
        ]
      }
    },
    "FolderId": {
      "Description": "The ID of the parent folder",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerAccount",
          "FolderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PayerAccountId:
    Type: String
    Description: ''
  DisplayName:
    Type: String
    Description: Member name
  FolderId:
    Type: String
    Description: The ID of the parent folder
Resources:
  ResourceManagerAccount:
    Type: 'ALIYUN::ResourceManager::Account'
    Properties:
      PayerAccountId:
        Ref: PayerAccountId
      DisplayName:
        Ref: DisplayName
      FolderId:
        Ref: FolderId
Outputs:
  JoinMethod:
    Description: >-
      Ways for members to join the resource directory. Valid values: invited,
      created
    Value:
      'Fn::GetAtt':
        - ResourceManagerAccount
        - JoinMethod
  ResourceDirectoryId:
    Description: Resource directory ID
    Value:
      'Fn::GetAtt':
        - ResourceManagerAccount
        - ResourceDirectoryId
  Type:
    Description: Member type. The value of ResourceAccount indicates the resource account
    Value:
      'Fn::GetAtt':
        - ResourceManagerAccount
        - Type
  AccountId:
    Description: This ID of Resource Manager Account
    Value:
      'Fn::GetAtt':
        - ResourceManagerAccount
        - AccountId
  DisplayName:
    Description: Member name
    Value:
      'Fn::GetAtt':
        - ResourceManagerAccount
        - DisplayName
  FolderId:
    Description: The ID of the parent folder
    Value:
      'Fn::GetAtt':
        - ResourceManagerAccount
        - FolderId
```

58.3. ALIYUN::ResourceManager::ControlPolicy

ALIYUN::ResourceManager::ControlPolicy is used to create a custom control policy.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::ControlPolicy",
  "Properties": {
    "Description": String,
    "PolicyDocument": String,
    "ControlPolicyName": String,
    "EffectScope": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the control policy.	The description must be 1 to 1,024 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.
PolicyDocument	String	Yes	Yes	The document of the control policy.	The document can be up to 2,048 characters in length. For more information, see Examples of custom access control policies and Languages of access control policies.
ControlPolicyNam e	String	Yes	Yes	The name of the control policy.	The name must be 1 to 128 characters in length and can contain letters, digits, and hyphens (-). It must start with a letter.
EffectScope	String	Yes	No	The effective scope of the control policy.	Set the value to RAM. The value of RAM indicates that the control policy is in effect for Resource Access Management (RAM) users and roles.

Response parameters

Fn::GetAtt

- PolicyType: the type of the control policy.
- Description: the description of the control policy.
- AttachmentCount: the number of times that the control policy is referenced.
- PolicyDocument: the document of the control policy.
- ControlPolicyName: the name of the control policy.
- EffectScope: the effective scope of the control policy.
- PolicyId: the ID of the control policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description"
    },
    "PolicyDocument": {
      "Type": "String",
      "Description": "PolicyDocument"
    },
    "ControlPolicyName": {
      "Type": "String",
      "Description": "PolicyName"
    },
    "EffectScope": {
      "Type": "String",
      "Description": "EffectScope"
    }
  },
  "Resources": {
```

```
  "Resources": {
    "ResourceManagerControlPolicy": {
      "Type": "ALIYUN::ResourceManager::ControlPolicy",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "PolicyDocument": {
          "Ref": "PolicyDocument"
        },
        "ControlPolicyName": {
          "Ref": "ControlPolicyName"
        },
        "EffectScope": {
          "Ref": "EffectScope"
        }
      }
    }
  },
  "Outputs": {
    "PolicyType": {
      "Description": "PolicyType",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "PolicyType"
        ]
      }
    },
    "Description": {
      "Description": "Description",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "Description"
        ]
      }
    },
    "AttachmentCount": {
      "Description": "AttachmentCount",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "AttachmentCount"
        ]
      }
    },
    "PolicyDocument": {
      "Description": "PolicyDocument",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "PolicyDocument"
        ]
      }
    },
    "ControlPolicyName": {
      "Description": "PolicyName",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "ControlPolicyName"
        ]
      }
    },
    "EffectScope": {
      "Description": "EffectScope",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "EffectScope"
        ]
      }
    },
    "PolicyId": {
```

```
      "Description": "PolicyId",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicy",
          "PolicyId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ControlPolicyName:
    Description: PolicyName
    Type: String
  Description:
    Description: Description
    Type: String
  EffectScope:
    Description: EffectScope
    Type: String
  PolicyDocument:
    Description: PolicyDocument
    Type: String
Resources:
  ResourceManagerControlPolicy:
    Properties:
      ControlPolicyName:
        Ref: ControlPolicyName
      Description:
        Ref: Description
      EffectScope:
        Ref: EffectScope
      PolicyDocument:
        Ref: PolicyDocument
    Type: ALIYUN::ResourceManager::ControlPolicy
Outputs:
  AttachmentCount:
    Description: AttachmentCount
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - AttachmentCount
  ControlPolicyName:
    Description: PolicyName
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - ControlPolicyName
  Description:
    Description: Description
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - Description
  EffectScope:
    Description: EffectScope
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - EffectScope
  PolicyDocument:
    Description: PolicyDocument
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - PolicyDocument
  PolicyId:
    Description: PolicyId
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - PolicyId
  PolicyType:
    Description: PolicyType
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicy
      - PolicyType
```

58.4. ALIYUN::ResourceManager::ControlPolicyAttachment

ALIYUN::ResourceManager::ControlPolicyAttachment is used to attach a custom control policy.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::ControlPolicyAttachment",
  "Properties": {
    "TargetId": String,
    "PolicyId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TargetId	String	Yes	No	The ID of the object to which you want to attach the control policy.	Valid values: • Root folders • Subfolders of the Root folder • Member accounts
PolicyId	String	Yes	No	The ID of the control policy.	None

Response parameters

Fn::GetAtt

- PolicyType: the type of the control policy.
- Description: the description of the control policy.
- AttachDate: the time when the control policy was attached.
- PolicyName: the name of the control policy.
- TargetId: the ID of the object to which the control policy is attached.
- PolicyId: the ID of the control policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "TargetId": {
      "Type": "String",
      "Description": "TargetId"
    },
    "PolicyId": {
      "Type": "String",
      "Description": "PolicyId"
    }
  },
  "Resources": {
    "ResourceManagerControlPolicyAttachment": {
      "Type": "ALIYUN::ResourceManager::ControlPolicyAttachment",
      "Properties": {
        "TargetId": {
          "Ref": "TargetId"
        },
        "PolicyId": {
          "Ref": "PolicyId"
        }
      }
    }
  },
  "Outputs": {
    "PolicyType": {
```

```
      "Description": "PolicyType",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicyAttachment",
          "PolicyType"
        ]
      }
    },
    "Description": {
      "Description": "Description",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicyAttachment",
          "Description"
        ]
      }
    },
    "AttachDate": {
      "Description": "AttachDate",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicyAttachment",
          "AttachDate"
        ]
      }
    },
    "PolicyName": {
      "Description": "PolicyName",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicyAttachment",
          "PolicyName"
        ]
      }
    },
    "TargetId": {
      "Description": "TargetId",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicyAttachment",
          "TargetId"
        ]
      }
    },
    "PolicyId": {
      "Description": "PolicyId",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerControlPolicyAttachment",
          "PolicyId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PolicyId:
    Description: PolicyId
    Type: String
  TargetId:
    Description: TargetId
    Type: String
Resources:
  ResourceManagerControlPolicyAttachment:
    Properties:
      PolicyId:
        Ref: PolicyId
      TargetId:
        Ref: TargetId
    Type: ALIYUN::ResourceManager::ControlPolicyAttachment
Outputs:
  AttachDate:
    Description: AttachDate
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicyAttachment
      - AttachDate
  Description:
    Description: Description
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicyAttachment
      - Description
  PolicyId:
    Description: PolicyId
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicyAttachment
      - PolicyId
  PolicyName:
    Description: PolicyName
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicyAttachment
      - PolicyName
  PolicyType:
    Description: PolicyType
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicyAttachment
      - PolicyType
  TargetId:
    Description: TargetId
    Value:
      Fn::GetAtt:
      - ResourceManagerControlPolicyAttachment
      - TargetId
```

58.5. ALIYUN::ResourceManager::Folder

ALIYUN::ResourceManager::Folder is used to create a folder.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::Folder",
  "Properties": {
    "FolderName": String,
    "ParentFolderId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
FolderName	String	Yes	Yes	The name of the folder.	The name must be 1 to 24 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-).
ParentFolderId	String	No	No	The ID of the parent folder.	None

Response parameters

Fn::GetAtt

- FolderId: the ID of the folder.
- FolderName: the name of the folder.
- ParentFolderId: the ID of the parent folder.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "FolderName": {
      "Type": "String",
      "Description": "The name of the folder"
    },
    "ParentFolderId": {
      "Type": "String",
      "Description": "The ID of the parent folder. If not set, the system default value will be used"
    }
  },
  "Resources": {
    "ResourceManagerFolder": {
      "Type": "ALIYUN::ResourceManager::Folder",
      "Properties": {
        "FolderName": {
          "Ref": "FolderName"
        },
        "ParentFolderId": {
          "Ref": "ParentFolderId"
        }
      }
    }
  },
  "Outputs": {
    "FolderId": {
      "Description": "The ID of the folder",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerFolder",
          "FolderId"
        ]
      }
    },
    "FolderName": {
      "Description": "The name of the folder",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerFolder",
          "FolderName"
        ]
      }
    },
    "ParentFolderId": {
      "Description": "The ID of the parent folder. If not set, the system default value will be used",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerFolder",
          "ParentFolderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  FolderName:
    Type: String
    Description: The name of the folder
  ParentFolderId:
    Type: String
    Description: >-
      The ID of the parent folder. If not set, the system default value will be
      used
Resources:
  ResourceManagerFolder:
    Type: 'ALIYUN::ResourceManager::Folder'
    Properties:
      FolderName:
        Ref: FolderName
      ParentFolderId:
        Ref: ParentFolderId
Outputs:
  FolderId:
    Description: The ID of the folder
    Value:
      'Fn::GetAtt':
        - ResourceManagerFolder
        - FolderId
  FolderName:
    Description: The name of the folder
    Value:
      'Fn::GetAtt':
        - ResourceManagerFolder
        - FolderName
  ParentFolderId:
    Description: >-
      The ID of the parent folder. If not set, the system default value will be
      used
    Value:
      'Fn::GetAtt':
        - ResourceManagerFolder
        - ParentFolderId
```

58.6. ALIYUN::ResourceManager::Handshake

ALIYUN::ResourceManager::Handshake is used to create an invitation.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::Handshake",
  "Properties": {
    "Note": String,
    "TargetType": String,
    "TargetEntity": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Note	String	No	No	The remarks of the invitation.	None
TargetType	String	Yes	No	The type of the invited account.	Valid values: • Account: the ID of the account. • Email: the logon email address of the account.

Property	Type	Required	Editable	Description	Constraint
TargetEntity	String	Yes	No	The ID or logon email address of the invited account.	None

Response parameters

Fn::GetAtt

- ResourceDirectoryId: the ID of the resource directory.
- HandshakeId: the ID of the invitation.
- Note: the remarks of the invitation.
- TargetType: the type of the invited account.
- TargetEntity: the ID or logon email address of the invited account.
- MasterAccountName: the name of the master account.
- MasterAccountId: the ID of the master account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Note": {
      "Type": "String",
      "Description": "Remarks"
    },
    "TargetType": {
      "Type": "String",
      "Description": "Type of account being invited. Valid values: Account, Email"
    },
    "TargetEntity": {
      "Type": "String",
      "Description": "Invited account ID or login email"
    }
  },
  "Resources": {
    "ResourceManagerHandshake": {
      "Type": "ALIYUN::ResourceManager::Handshake",
      "Properties": {
        "Note": {
          "Ref": "Note"
        },
        "TargetType": {
          "Ref": "TargetType"
        },
        "TargetEntity": {
          "Ref": "TargetEntity"
        }
      }
    }
  },
  "Outputs": {
    "ResourceDirectoryId": {
      "Description": "Resource directory ID",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "ResourceDirectoryId"
        ]
      }
    },
    "HandshakeId": {
      "Description": "This ID of Resource Manager handshake",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "HandshakeId"
        ]
      }
    }
```

```
    },
    "Note": {
      "Description": "Remarks",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "Note"
        ]
      }
    },
    "MasterAccountName": {
      "Description": "The name of the main account of the resource directory",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "MasterAccountName"
        ]
      }
    },
    "TargetType": {
      "Description": "Type of account being invited. Valid values: Account, Email",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "TargetType"
        ]
      }
    },
    "MasterAccountId": {
      "Description": "Resource account master account ID",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "MasterAccountId"
        ]
      }
    },
    "TargetEntity": {
      "Description": "Invited account ID or login email",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerHandshake",
          "TargetEntity"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Note:
    Type: String
    Description: Remarks
  TargetType:
    Type: String
    Description: 'Type of account being invited. Valid values: Account, Email'
  TargetEntity:
    Type: String
    Description: Invited account ID or login email
Resources:
  ResourceManagerHandshake:
    Type: 'ALIYUN::ResourceManager::Handshake'
    Properties:
      Note:
        Ref: Note
      TargetType:
        Ref: TargetType
      TargetEntity:
        Ref: TargetEntity
Outputs:
  ResourceDirectoryId:
    Description: Resource directory ID
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - ResourceDirectoryId
  HandshakeId:
    Description: This ID of Resource Manager handshake
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - HandshakeId
  Note:
    Description: Remarks
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - Note
  MasterAccountName:
    Description: The name of the main account of the resource directory
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - MasterAccountName
  TargetType:
    Description: 'Type of account being invited. Valid values: Account, Email'
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - TargetType
  MasterAccountId:
    Description: Resource account master account ID
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - MasterAccountId
  TargetEntity:
    Description: Invited account ID or login email
    Value:
      'Fn::GetAtt':
        - ResourceManagerHandshake
        - TargetEntity
```

58.7. ALIYUN::ResourceManager::PolicyAttachment

ALIYUN::ResourceManager::PolicyAttachment is used to attach a policy to a specified object. After you attach a policy to an object, the object has the operation permissions on the current resource group or the resources within the current Alibaba Cloud account.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::PolicyAttachment",
  "Properties": {
    "PolicyType": String,
    "ResourceGroupId": String,
    "PolicyName": String,
    "PrincipalName": String,
    "PrincipalType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PolicyType	String	Yes	No	The type of the policy.	Valid values: • Custom: custom policy • System: system policy
ResourceGroupId	String	Yes	No	The ID of the resource group or the ID of the Alibaba Cloud account.	This parameter specifies the resource group or the Alibaba Cloud account for which you want to grant permissions.
PolicyName	String	Yes	No	The name of the policy.	The name must be 1 to 128 characters in length and can contain letters, digits, and hyphens (-).
PrincipalName	String	Yes	No	The name of the object to which the policy is to be attached.	None
PrincipalType	String	Yes	No	The type of the object to which the policy is to be attached.	Valid values: • IMSUser: Resource Access Management (RAM) user • IMSGroup: RAM user group • ServiceRole: RAM role

Response parameters

Fn::GetAtt

- PolicyType: the type of the object to which the policy is attached.
- Description: the description of the policy.
- ResourceGroupId: the ID of the resource group or the ID of the Alibaba Cloud account. This parameter indicates the resource group or Alibaba Cloud account for which you want to grant permissions.
- AttachDate: the time when the policy was attached.
- PolicyName: the name of the policy.
- PrincipalName: the name of the object to which the policy is attached.
- PrincipalType: the type of the object to which the policy is attached.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PolicyType": {
      "Type": "String",
      "Description": "The type of the policy"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group or the ID of the Alibaba Cloud account to which the resource group belongs."
    },
    "PolicyName": {
      "Type": "String",
      "Description": "The name of the policy"
```

```
      "Description": "The name of the policy"
    },
    "PrincipalName": {
      "Type": "String",
      "Description": "The name of the object to which you want to attach the policy"
    },
    "PrincipalType": {
      "Type": "String",
      "Description": "The type of the object to which you want to attach the policy. Valid values: IMSUser: RAM user, IMSGroup:
RAM user group, ServiceRole: RAM role"
    }
  },
  "Resources": {
    "ResourceManagerPolicyAttachment": {
      "Type": "ALIYUN::ResourceManager::PolicyAttachment",
      "Properties": {
        "PolicyType": {
          "Ref": "PolicyType"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "PolicyName": {
          "Ref": "PolicyName"
        },
        "PrincipalName": {
          "Ref": "PrincipalName"
        },
        "PrincipalType": {
          "Ref": "PrincipalType"
        }
      }
    }
  },
  "Outputs": {
    "PolicyType": {
      "Description": "The type of the policy",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "PolicyType"
        ]
      }
    },
    "Description": {
      "Description": "Policy description",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "Description"
        ]
      }
    },
    "ResourceGroupId": {
      "Description": "The ID of the resource group or the ID of the Alibaba Cloud account to which the resource group belongs."
,
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "ResourceGroupId"
        ]
      }
    },
    "AttachDate": {
      "Description": "Authorization time",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "AttachDate"
        ]
      }
    },
    "PolicyName": {
      "Description": "The name of the policy",
      "Value": {
```

```
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "PolicyName"
        ]
      }
    },
    "PrincipalName": {
      "Description": "The name of the object to which you want to attach the policy",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "PrincipalName"
        ]
      }
    },
    "PrincipalType": {
      "Description": "The type of the object to which you want to attach the policy. Valid values: IMSUser: RAM user, IMSGroup:
RAM user group, ServiceRole: RAM role",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerPolicyAttachment",
          "PrincipalType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PolicyName:
    Description: The name of the policy
    Type: String
  PolicyType:
    Description: The type of the policy
    Type: String
  PrincipalName:
    Description: The name of the object to which you want to attach the policy
    Type: String
  PrincipalType:
    Description: 'The type of the object to which you want to attach the policy. Valid
      values: IMSUser: RAM user, IMSGroup: RAM user group, ServiceRole: RAM role'
    Type: String
  ResourceGroupId:
    Description: The ID of the resource group or the ID of the Alibaba Cloud account
      to which the resource group belongs.
    Type: String
Resources:
  ResourceManagerPolicyAttachment:
    Properties:
      PolicyName:
        Ref: PolicyName
      PolicyType:
        Ref: PolicyType
      PrincipalName:
        Ref: PrincipalName
      PrincipalType:
        Ref: PrincipalType
      ResourceGroupId:
        Ref: ResourceGroupId
    Type: ALIYUN::ResourceManager::PolicyAttachment
Outputs:
  AttachDate:
    Description: Authorization time
    Value:
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - AttachDate
  Description:
    Description: Policy description
    Value:
```

```
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - Description
  PolicyName:
    Description: The name of the policy
    Value:
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - PolicyName
  PolicyType:
    Description: The type of the policy
    Value:
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - PolicyType
  PrincipalName:
    Description: The name of the object to which you want to attach the policy
    Value:
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - PrincipalName
  PrincipalType:
    Description: 'The type of the object to which you want to attach the policy. Valid
      values: IMSUser: RAM user, IMSGroup: RAM user group, ServiceRole: RAM role'
    Value:
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - PrincipalType
  ResourceGroupId:
    Description: The ID of the resource group or the ID of the Alibaba Cloud account
      to which the resource group belongs.
    Value:
      Fn::GetAtt:
      - ResourceManagerPolicyAttachment
      - ResourceGroupId
```

58.8. ALIYUN::ResourceManager::ResourceGroup

ALIYUN::ResourceManager::ResourceGroup is used to create a resource group.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::ResourceGroup",
  "Properties": {
    "DisplayName": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DisplayName	String	Yes	Yes	The display name of the resource group.	The name must be 1 to 30 characters in length and can contain letters, digits, and hyphens (-).
Name	String	Yes	No	The unique identifier (UID) of the resource group.	The UID must be 3 to 12 characters in length and can contain letters, digits, and hyphens (-). It must start with a letter.

Response parameters

Fn::GetAtt

- RegionStatuses: the statuses of the resource group in all regions.
- AccountId: the ID of the Alibaba Cloud account to which the resource group belongs.
- DisplayName: the display name of the resource group.
- Id: the ID of the resource group.
- Name: the UID of the resource group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DisplayName": {
      "Type": "String",
      "Description": "The display name of the resource group"
    },
    "Name": {
      "Type": "String",
      "Description": "The unique identifier of the resource group"
    }
  },
  "Resources": {
    "ResourceManagerResourceGroup": {
      "Type": "ALIYUN::ResourceManager::ResourceGroup",
      "Properties": {
        "DisplayName": {
          "Ref": "DisplayName"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "RegionStatuses": {
      "Description": "The status of the resource group in all regions",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceGroup",
          "RegionStatuses"
        ]
      }
    },
    "AccountId": {
      "Description": "The ID of the Alibaba Cloud account to which the resource group belongs",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceGroup",
          "AccountId"
        ]
      }
    },
    "DisplayName": {
      "Description": "The display name of the resource group",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceGroup",
          "DisplayName"
        ]
      }
    },
    "Id": {
      "Description": "The ID of the resource group",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceGroup",
          "Id"
        ]
      }
    },
    "Name": {
      "Description": "The unique identifier of the resource group",
      "Value": {
        "Fn::GetAtt": [
          "ResourceManagerResourceGroup",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DisplayName:
    Type: String
    Description: The display name of the resource group
  Name:
    Type: String
    Description: The unique identifier of the resource group
Resources:
  ResourceManagerResourceGroup:
    Type: 'ALIYUN::ResourceManager::ResourceGroup'
    Properties:
      DisplayName:
        Ref: DisplayName
      Name:
        Ref: Name
Outputs:
  RegionStatuses:
    Description: The status of the resource group in all regions
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceGroup
        - RegionStatuses
  AccountId:
    Description: The ID of the Alibaba Cloud account to which the resource group belongs
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceGroup
        - AccountId
  DisplayName:
    Description: The display name of the resource group
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceGroup
        - DisplayName
  Id:
    Description: The ID of the resource group
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceGroup
        - Id
  Name:
    Description: The unique identifier of the resource group
    Value:
      'Fn::GetAtt':
        - ResourceManagerResourceGroup
        - Name
```

58.9. ALIYUN::ResourceManager::ResourceShare

ALIYUN::ResourceManager::ResourceShare is used to create a resource share.

Syntax

```
{
  "Type": "ALIYUN::ResourceManager::ResourceShare",
  "Properties": {
    "ResourceShareName": String,
    "Targets": List,
    "Resources": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ResourceShareName	String	Yes	Yes	The name of the resource share.	The name must be 1 to 50 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-).
Targets	List	No	No	The list of shared targets.	A shared target shares the resources of resource owners. You can share your resources only with the member accounts in your resource directory. A shared target is indicated by its account ID. For more information about how to obtain the ID, see View the detailed information of a member. One to five shared targets can be specified at a time.
Resources	List	No	No	The list of shared resources.	One to five shared resources can be specified at a time. For more information, see Resources properties.

Resources syntax

```
"Resources": [
  {
    "ResourceId": String,
    "ResourceType": String
  }
]
```

Resources properties

Property	Type	Required	Editable	Description	Constraint
ResourceId	String	Yes	No	The ID of the shared resource.	Sample value: `vsw-bp183p93qs667muql****` .
ResourceType	String	Yes	No	The type of the shared resource.	Set the value to VSwitch.

Response parameters

Fn::GetAtt

ResourceShareId: the ID of the resource share.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ResourceShareName": {
      "Type": "String",
      "Description": "The name of the resource share.\nThe name must be 1 to 50 characters in length.\nIt can contain letters,
digits, periods (.), underscores (_), and hyphens (-).",
      "AllowedPattern": "[-a-zA-Z0-9_\\.]{1,50}"
    },
    "Targets": {
      "Type": "Json",
      "Description": "The shared target.\nA shared target shares the resources of resource owners. You can share your resources
\nonly with the member accounts in your resource directory. A shared target is indicated\nby its account ID. For more informati
on about how to obtain the ID, see View the basic information of a member account.",
      "MaxLength": 5
    },
    "Resources": {
      "Type": "Json",
      "Description": "",
      "MaxLength": 5
    }
  },
  "Resources": {
    "ResourceShare": {
      "Type": "ALIYUN::ResourceManager::ResourceShare",
      "Properties": {
        "ResourceShareName": {
          "Ref": "ResourceShareName"
        },
        "Targets": {
          "Ref": "Targets"
        },
        "Resources": {
          "Ref": "Resources"
        }
      }
    }
  },
  "Outputs": {
    "ResourceShareId": {
      "Description": "The ID of the resource share.",
      "Value": {
        "Fn::GetAtt": [
          "ResourceShare",
          "ResourceShareId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ResourceShareName:
    AllowedPattern: '[-a-zA-Z0-9_\.]{1,50}'
    Description: 'The name of the resource share.
      The name must be 1 to 50 characters in length.
      It can contain letters, digits, periods (.), underscores (_), and hyphens (-).'
    Type: String
  Resources:
    Description: ''
    MaxLength: 5
    Type: Json
  Targets:
    Description: 'The shared target.
      A shared target shares the resources of resource owners. You can share your
      resources
      only with the member accounts in your resource directory. A shared target is
      indicated
      by its account ID. For more information about how to obtain the ID, see View
      the basic information of a member account.'
    MaxLength: 5
    Type: Json
Resources:
  ResourceShare:
    Properties:
      ResourceShareName:
        Ref: ResourceShareName
      Resources:
        Ref: Resources
      Targets:
        Ref: Targets
    Type: ALIYUN::ResourceManager::ResourceShare
Outputs:
  ResourceShareId:
    Description: The ID of the resource share.
    Value:
      Fn::GetAtt:
      - ResourceShare
      - ResourceShareId
```

59.Redis

59.1. ALIYUN::REDIS::Account

ALIYUN::REDIS::Account is used to create an account that has the specified permissions on an ApsaraDB for Redis instance.

Syntax

```
{
  "Type": "ALIYUN::REDIS::Account",
  "Properties": {
    "AccountDescription": String,
    "InstanceId": String,
    "AccountName": String,
    "AccountPrivilege": String,
    "AccountType": String,
    "AccountPassword": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AccountDescription	String	No	Yes	The description of the account.	The description must be 2 to 256 characters in length, and start with a letter. It cannot start with `http://` or `https://`. The description can contain letters, digits, and hyphens (-).
InstanceId	String	Yes	No	The ID of the instance.	None
AccountName	String	Yes	No	The name of the account.	The name can be up to 16 characters in length. The name can contain lowercase letters, digits, and underscores (_). It must start with lowercase letters.
AccountPrivilege	String	No	Yes	The permissions of the account.	Default value: RoleReadWrite. Valid values: • RoleReadOnly: the read-only permission • RoleReadWrite: the read and write permission. • RoleRepl: the copy permission. In addition to reading data from and writing data to the ApsaraDB for Redis instance, an account that is granted the RoleRepl permission can run the `SYNC and PSYNC` commands. The RoleRepl permission can be granted to an account only in an ApsaraDB for Redis instance of the Standard Edition in Redis 4.0.
AccountType	String	No	No	The type of the account.	Set the value to Normal, which indicates the standard account.
AccountPassword	String	Yes	Yes	The password of the account.	The password must be 8 to 32 characters in length and must contain at least three of the following character types: uppercase letters, lowercase letters, digits, and special characters. Special characters include `!@ # $ % ^ & * ( ) _ + - =` .

Response parameters

Fn::GetAtt

- InstanceId: the ID of the instance.

- AccountName: the name of the account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Account": {
      "Type": "ALIYUN::REDIS::Account",
      "Properties": {
        "AccountDescription": {
          "Ref": "AccountDescription"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "AccountName": {
          "Ref": "AccountName"
        },
        "AccountPrivilege": {
          "Ref": "AccountPrivilege"
        },
        "AccountType": {
          "Ref": "AccountType"
        },
        "AccountPassword": {
          "Ref": "AccountPassword"
        }
      }
    }
  },
  "Parameters": {
    "AccountDescription": {
      "Type": "String",
      "Description": "The description of the account.\nThe description must start with a letter, and cannot start with http://
or https://.\nThe description can contain letters, underscores (_), hyphens (-), and digits.\nIt can be 2 to 256 characters in
length."
    },
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the instance for which you want to create the account."
    },
    "AccountName": {
      "Type": "String",
      "Description": "The name of the account. The name must start with a lowercase letter and can contain\nlowercase letters,
digits, and underscores (_). The name can be 1 to 16 characters\nin length."
    },
    "AccountPrivilege": {
      "Type": "String",
      "Description": "The permission of the account. Valid values:\nRoleReadOnly\nRoleReadWrite (default value)\nRoleRepl\nNote
In addition to reading data from and writing data to the ApsaraDB for Redis instance,\nan account with the RoleRepl permission
can run the SYNC and PSYNC commands. The RoleRepl\npermission can be granted to an account only in an ApsaraDB for Redis instan
ce of\nthe standard edition in Redis 4.0."
    },
    "AccountType": {
      "Default": "Normal",
      "Type": "String",
      "Description": "The type of the account. Set this parameter to Normal."
    },
    "AccountPassword": {
      "Type": "String",
      "Description": "The password of the account. The password can be 8 to 32 characters in length and\nmust contain at least
three types of the following characters: uppercase letters,\nlowercase letters, digits, and special characters. Special charact
ers include ! at signs (@), number signs (#), dollar signs ($), percent signs (%), carets (^),\nampersands (&), asterisks (*),
parentheses (()), underscores (_), plus signs (+),\nhyphens (-), and equal signs (=)."
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The name of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "Account"
```

```
          "Account",
          "InstanceId"
        ]
      }
    },
    "AccountName": {
      "Description": "The name of the account.",
      "Value": {
        "Fn::GetAtt": [
          "Account",
          "AccountName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Account:
    Type: 'ALIYUN::REDIS::Account'
    Properties:
      AccountDescription:
        Ref: AccountDescription
      InstanceId:
        Ref: InstanceId
      AccountName:
        Ref: AccountName
      AccountPrivilege:
        Ref: AccountPrivilege
      AccountType:
        Ref: AccountType
      AccountPassword:
        Ref: AccountPassword
Parameters:
  AccountDescription:
    Type: String
    Description: >-
      The description of the account.
      The description must start with a letter, and cannot start with http:// or
      https://.
      The description can contain letters, underscores (_), hyphens (-), and
      digits.
      It can be 2 to 256 characters in length.
  InstanceId:
    Type: String
    Description: The ID of the instance for which you want to create the account.
  AccountName:
    Type: String
    Description: >-
      The name of the account. The name must start with a lowercase letter and
      can contain
      lowercase letters, digits, and underscores (_). The name can be 1 to 16
      characters
      in length.
  AccountPrivilege:
    Type: String
    Description: >-
      The permission of the account. Valid values:
      RoleReadOnly
      RoleReadWrite (default value)
      RoleRepl
      Note In addition to reading data from and writing data to the ApsaraDB for
      Redis instance,
      an account with the RoleRepl permission can run the SYNC and PSYNC
      commands. The RoleRepl
      permission can be granted to an account only in an ApsaraDB for Redis
      instance of
      the standard edition in Redis 4.0.
  AccountType:
    Default: Normal
    Type: String
```

```
    Description: The type of the account. Set this parameter to Normal.
  AccountPassword:
    Type: String
    Description: >-
      The password of the account. The password can be 8 to 32 characters in
      length and
      must contain at least three types of the following characters: uppercase
      letters,
      lowercase letters, digits, and special characters. Special characters
      include ! at signs (@), number signs (#), dollar signs ($), percent signs
      (%), carets (^),
      ampersands (&), asterisks (*), parentheses (()), underscores (_), plus
      signs (+),
      hyphens (-), and equal signs (=).
Outputs:
  InstanceId:
    Description: The name of the instance.
    Value:
      'Fn::GetAtt':
        - Account
        - InstanceId
  AccountName:
    Description: The name of the account.
    Value:
      'Fn::GetAtt':
        - Account
        - AccountName
```

For more information, see Instance.json and Instance.yml. In the examples, the ALIYUN::REDIS::Account, ALIYUN::REDIS::Instance, and ALIYUN::REDIS::Whitelist resource types are involved.

59.2. ALIYUN::REDIS::Instance

ALIYUN::REDIS::Instance is used to create an ApsaraDB for Redis instance.

Syntax

```
{
  "Type": "ALIYUN::REDIS::Instance",
  "Properties": {
    "VpcId": String,
    "Capacity": Integer,
    "EvictionPolicy": String,
    "BackupPolicy": Map,
    "ZoneId": String,
    "InstanceClass": String,
    "InstanceMaintainTime": Map,
    "Tags": List,
    "VpcPasswordFree": Boolean,
    "VSwitchId": String,
    "SecurityGroupId": String,
    "EngineVersion": String,
    "SSLEnabled": String,
    "Password": String,
    "InstanceName": String,
    "DeletionForce": Boolean,
    "Connections": Map,
    "ChargeType": String,
    "Period": Integer,
    "AutoRenewDuration": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
EngineVersion	String	No	No	The database engine version of the instance.	Valid values: • 2.8 Note This version is unavailable. Select another one. • 4.0 • 5.0
InstanceClass	String	No	Yes	The instance type.	You must specify the Capacity property or the InstanceClass property. For more information, see 规格查询导航.
InstanceMaintainTime	Map	No	Yes	The maintenance window of the instance.	None
Tags	List	No	No	The tags of the instance.	You can add up to 20 tags to each instance. For more information, see Tags properties.
VpcPasswordFree	Boolean	No	No	Specifies whether to enable the password-free authentication feature when you access the instance in the virtual private cloud (VPC).	Default value: false. Valid values: • true • false
VpcId	String	No	No	The ID of the VPC.	None
Capacity	Integer	No	No	The storage capacity of the instance.	You must specify the Capacity property or the InstanceClass property.
EvictionPolicy	String	No	No	The data eviction policy.	Valid values: • noeviction: The system does not evict keys, but returns an error for write operations. • allkeys-lru: The system evicts the approximated least recently used (LRU) keys. • volatile-lru: The system evicts the approximated LRU keys among keys that have time-to-live (TTL) values configured. • allkeys-random: The system evicts random keys. • volatile-random: The system evicts random keys among keys that have TTL values configured. • volatile-ttl: The system evicts keys with the minimum TTL among keys that have TTL values configured.
ZoneId	String	No	No	The ID of the zone.	This parameter is required if the instance is created in a VPC. When you create a multi-zone instance, you can call the DescribeZones operation to query the zones where ApsaraDB for Redis instances can be created.

Property	Type	Required	Editable	Description	Constraint
VSwitchId	String	No	No	The ID of the vSwitch in the VPC.	None
SecurityGroupId	String	No	Yes	The ID of the security group.	You can specify up to 10 security group IDs. Separate multiple security group IDs with commas (,).
Password	String	No	No	The password that is used to access the instance.	The password must be 8 to 30 characters in length, and can contain uppercase letters, lowercase letters, and digits.
SSLEnabled	String	No	Yes	The status of SSL encryption.	Valid values: • Disable: disables SSL encryption. • Enable: enables SSL encryption. • Update: updates the SSL certificate.
InstanceName	String	No	Yes	The name of the instance.	The name must be 2 to 128 characters in length, and can contain letters, digits, underscores (_), hyphens (-), and periods (.). It must start with a letter.
DeletionForce	Boolean	No	Yes	Specifies whether to delete the instance when the instance is reclaimed.	Default value: false. Valid values: • true • false
Connections	Map	No	Yes	The endpoint of the instance.	For more information, see Connections properties.
BackupPolicy	Map	No	Yes	The backup policy.	For more information, see BackupPolicy properties.
ChargeType	String	No	No	The billing method of the cluster.	Default value: PostPaid. Valid values: • PostPaid: pay-as-you-go • PrePaid: subscription
Period	Integer	No	No	The billing cycle of the instance.	Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, and 60. Unit: months
AutoRenewDuration	Integer	No	Yes	The auto-renewal period.	Valid values: 1 to 12. Unit: months When the instance is about to expire, the system enables auto-renewal based on the duration that is specified by this property. **Note** This property only takes effect if you set the ChargeType property to PrePaid.

BackupPolicy syntax

```
"BackupPolicy": {
  "PreferredBackupPeriod": "String",
  "PreferredBackupTime": "String",
  "EnableBackupLog": "Integer"
}
```

BackupPolicy properties

Property	Type	Required	Editable	Description	Constraint
PreferredBackupPeriod	String	Yes	Yes	The days on which backups are performed.	Valid values: • Monday • Tuesday • Wednesday • Thursday • Friday • Saturday • Sunday
PreferredBackupTime	String	Yes	Yes	The backup window.	Specify the window in the `HH:mmZ-HH:mmZ` format.
EnableBackupLog	Integer	No	Yes	Specifies whether to enable incremental backup.	Default value: 0. Valid values: • 1: enables incremental backup. • 0: disables incremental backup.

InstanceMaintainTime syntax

```
"InstanceMaintainTime": {
  "MaintainStartTime": "String",
  "MaintainEndTime": "String"
}
```

InstanceMaintainTime properties

Property	Type	Required	Editable	Description	Constraint
MaintainStartTime	String	No	No	The start time of the maintenance window.	Specify the time in the `HH:mmZ` format. The time must be in UTC. For example, if you want the maintenance window to start at 01:00 (UTC+8), set this property to `17:00Z`.
MaintainEndTime	String	No	No	The end time of the maintenance window.	Specify the time in the `HH:mmZ` format. The time must be in UTC. For example, if you want the maintenance window to end at 02:00 (UTC+8), set this property to `18:00Z`. **Note** The end time must be one hour later than the start time. For example, if the MaintainStartTime property is set to `17:00Z`, the MaintainEndTime property must be set to `18:00Z`.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	Each tag key must be unique to an Alibaba Cloud account within a region.

Property	Type	Required	Editable	Description	Constraint
Value	String	No	No	The tag value.	None

Connections syntax

```
"Connections": {
  "VpcPrivateConnection": "Map",
  "ClassicInnerConnection": "Map",
  "DirectConnection": "Map",
  "PublicConnection": "Map"
}
```

Connections properties

Property	Type	Required	Editable	Description	Constraint
VpcPrivateConnection	Map	No	Yes	The VPC endpoint.	For more information, see VpcPrivateConnection properties.
ClassicInnerConnection	Map	No	Yes	The classic network endpoint.	For more information, see ClassicInnerConnection properties.
DirectConnection	Map	No	Yes	The private endpoint. If your instance is a cluster instance, you can request a private endpoint based on your business requirements.	For more information, see DirectConnection properties.
PublicConnection	Map	No	Yes	The public endpoint.	For more information, see PublicConnection properties.

VpcPrivateConnection syntax

```
"VpcPrivateConnection": {
  "ConnectionPort": Integer,
  "ConnectionString": String
}
```

VpcPrivateConnection properties

Property	Type	Required	Editable	Description	Constraint
ConnectionPort	Integer	Yes	Yes	The port number used by the ApsaraDB for Redis instance to provide services.	Valid values: 1024 to 65535.
ConnectionString	String	Yes	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length, and can contain lowercase letters and digits. It must start with a lowercase letter.

PublicConnection syntax

```
"PublicConnection": {
  "ConnectionPort": Integer,
  "ConnectionString": String
}
```

PublicConnection properties

Property	Type	Required	Editable	Description	Constraint
ConnectionPort	Integer	Yes	Yes	The port number used by the ApsaraDB for Redis instance to provide services.	Valid values: 1024 to 65535.
ConnectionString	String	Yes	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length, and can contain lowercase letters and digits. It must start with a lowercase letter.

DirectConnection syntax

```
"DirectConnection": {
  "ConnectionPort": Integer,
  "ConnectionString": String
}
```

DirectConnection properties

Property	Type	Required	Editable	Description	Constraint
ConnectionPort	Integer	Yes	Yes	The port number used by the ApsaraDB for Redis instance to provide services.	Valid values: 1024 to 65535.
ConnectionString	String	Yes	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length and can contain lowercase letters and digits.

ClassicInnerConnection syntax

```
"ClassicInnerConnection": {
  "ConnectionPort": Integer,
  "ConnectionString": String
}
```

ClassicInnerConnection properties

Property	Type	Required	Editable	Description	Constraint
ConnectionPort	Integer	Yes	Yes	The port number used by the ApsaraDB for Redis instance to provide services.	Valid values: 1024 to 65535.
ConnectionString	String	Yes	Yes	The prefix of the endpoint.	The prefix must be 8 to 64 characters in length and can contain lowercase letters and digits. It must start with a lowercase letter.

Return values

Fn::GetAtt

- InstanceId: the ID of the instance.
- OrderId: the order ID of the instance.
- ConnectionDomain: the endpoint that is used to connect to the instance.
- Port: the service port of the ApsaraDB for Redis instance.
- InstanceName: the name of the instance.
- InstanceClass: the instance type.
- VpcId: the ID of the VPC.
- Capacity: the storage capacity of the instance.
- InstanceType: the database engine type of the instance.

- ChargeType: the billing method of the instance.
- PackageType: the type of the plan.
- Connections: the maximum number of connections that are supported by the instance.
- ArchitectureType: the architecture type.
- NodeType: the node type.
- HasRenewChangeOrder: indicates whether the instance has pending renewal or configuration upgrade orders within the current Alibaba Cloud account.
- ResourceGroupId: the ID of the resource group.
- QPS: the queries per second. The value is set to the expected maximum QPS.
- ZoneId: the ID of the zone to which the instance belongs.
- Bandwidth: the bandwidth of the instance. Unit: Mbit/s.
- EngineVersion: the database engine version of the instance.
- NetworkType: the network type of the instance.
- VSwitchId: the ID of the vSwitch.
- PrivateIp: the private IP address of the instance.
- PublicConnectionString: the public endpoint that is used to access the instance.
- VpcPrivateConnectionPort: the port that allows users to access the instance by using the VPC endpoint.
- ClassicInnerConnectionString: the classic network endpoint that is used to access the instance.
- VpcPrivateConnectionString: the VPC endpoint that is used to access the instance.
- PublicConnectionPort: the port that allows users to access the instance by using the public endpoint.
- DirectConnectionString: the private endpoint that is used to access the instance.
- DirectConnectionPort: the port that allows users to access the instance by using the private endpoint.
- ClassicInnerConnectionPort: the port that allows users to access the instance by using the classic network endpoint.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": {
    "en": "Alibaba Cloud ROS Sample Template: Create a Redis instance of a VPC network type."
  },
  "Parameters": {
    "InstanceClass": {
      "Type": "String",
      "Default": "redis.master.small.default",
      "Label": {
        "en": "Instance Type"
      }
    },
    "EvictionPolicy": {
      "Label": {
        "en": "Eviction Policy"
      },
      "AllowedValues": [
        "noeviction",
        "allkeys-lru",
        "volatile-lru",
        "allkeys-random",
        "volatile-random",
        "volatile-ttl"
      ],
      "Description": {
        "en": "Cache data eviction strategy: volatile-lru(Most recently used expired data), volatile-ttl(Being expiring data),
volatile-random(Any expired data), allkeys-lru(Least recently used data), allkeys-random(Arbitrarily select data), and no-envic
tion(Do not delete any data)."
      },
      "Type": "String",
      "Default": "noeviction"
    },
    "InstanceName": {
      "Type": "String",
      "Description": {
        "en": "The instance name, [2, 128] English or Chinese characters, must start with a letter or Chinese in size, can cont
ain numbers, '_' or '.', '-'."
      },
      "Label": {
```

```
      "Label": {
        "en": "Instance Name"
      },
      "Default": "DefaultRedis"
    },
    "Password": {
      "NoEcho": true,
      "Type": "String",
      "Description": {
        "en": "Length 8-32 characters, can contain size letters, Numbers and special symbols, including:! @ # $ % ^  * ( ) _ +
- =",
      },
      "Label": {
        "en": "Instance Password",
      },
      "ConstraintDescription": {
        "en": "8-32 characters, can contain size letters, Numbers and special symbols, including:! @ # $ % ^  * ( ) _ + - =",
      },
      "MinLength": "8",
      "MaxLength": "32"
    },
    "ZoneId": {
      "Type": "String",
      "Description": {
        "en": "Before you create an instance, confirm that the Availability Zone supports the specifications of Redis resources
."
      },
      "AssociationProperty": "ALIYUN::ECS::Instance:ZoneId",
      "Label": {
        "en": "Zone ID",
      }
    }
  },
  "Resources": {
    "EcsVpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": "192.168.0.0/16"
      }
    },
    "EcsVSwitch": {
      "DependsOn": "EcsVpc",
      "Type": "ALIYUN::ECS::VSwitch",
      "Properties": {
        "VpcId": {
          "Ref": "EcsVpc"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "CidrBlock": "192.168.10.0/24"
      }
    },
    "RedisInstance": {
      "DependsOn": "EcsVSwitch",
      "Type": "ALIYUN::REDIS::Instance",
      "Properties": {
        "VpcId": {
          "Ref": "EcsVpc"
        },
        "VSwitchId": {
          "Ref": "EcsVSwitch"
        },
        "InstanceClass": {
          "Ref": "InstanceClass"
        },
        "EvictionPolicy": {
          "Ref": "EvictionPolicy"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "InstanceName": {
          "Ref": "InstanceName"
        },
```

```
        },
        "Password": {
          "Ref": "Password"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Value": {
        "Fn::GetAtt": [
          "RedisInstance",
          "InstanceId"
        ]
      }
    }
  }
}
```

To view more examples, visit Instance.json and Instance.yml. In the examples, the ALIYUN::REDIS::Account, ALIYUN::REDIS::Instance, and ALIYUN::REDIS::Whitelist resource types are used.

59.3. ALIYUN::REDIS::Whitelist

ALIYUN::REDIS::Whitelist is used to configure an IP address whitelist for an ApsaraDB for Redis instance.

Syntax

```
{
  "Type": "ALIYUN::REDIS::Whitelist",
  "Properties": {
    "InstanceId": String,
    "SecurityIpGroupName": String,
    "SecurityIpGroupAttribute": String,
    "SecurityIps": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The globally unique ID of the ApsaraDB for Redis instance.	None
SecurityIpGroupName	String	No	No	The name of the whitelist. Default value: default.	None
SecurityIpGroupAttribute	String	No	No	The attribute value of the whitelist. This parameter is empty by default. The whitelist for which this parameter is set to hidden is not displayed in the console.	None

Property	Type	Required	Editable	Description	Constraint
SecurityIps	String	Yes	Yes	The IP addresses in the IP address whitelist. Separate multiple IP addresses with commas (,). Supported formats are IP addresses such as 0.0.0.0/0 and 10.23.12.24, or CIDR blocks such as 10.23.12.24/24. /24 indicates the length of the IP address prefix. The IP address prefix can consist of 1 to 32 bits.	A maximum of 1,000 IP addresses can be added.

Response parameters

Fn::GetAtt

- SecurityIpGroupName: the name of the whitelist.
- SecurityIpGroupAttribute: the attribute value of the whitelist.
- SecurityIps: the modified IP address whitelist.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Whitelist": {
      "Type": "ALIYUN::REDIS::Whitelist",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "SecurityIpGroupName": {
          "Ref": "SecurityIpGroupName"
        },
        "SecurityIpGroupAttribute": {
          "Ref": "SecurityIpGroupAttribute"
        },
        "SecurityIps": {
          "Ref": "SecurityIps"
        }
      }
    }
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The globally unique ID of the ApsaraDB for Redis instance."
    },
    "SecurityIpGroupName": {
      "AllowedPattern": "[a-z][a-zA-Z0-9_]*[a-zA-Z0-9]",
      "MinLength": 2,
      "Type": "String",
      "Description": "The name of the whitelist.",
      "MaxLength": 32
    },
    "SecurityIpGroupAttribute": {
      "Type": "String",
      "Description": ""This parameter is empty by default. To distinguish attribute values, the whitelist for which this parame
ter is set to hidden is not displayed in the console."
    },
    "SecurityIps": {
      "Type": "String",
      "Description": "The IP addresses in the IP address whitelist."
    }
  },
  "Outputs": {
    "SecurityIpGroupName": {
      "Description": "The name of the whitelist.",
      "Value": {
        "Fn::GetAtt": [
          "Whitelist",
          "SecurityIpGroupName"
        ]
      }
    },
    "SecurityIpGroupAttribute": {
      "Description": "The attribute value of the whitelist.",
      "Value": {
        "Fn::GetAtt": [
          "Whitelist",
          "SecurityIpGroupAttribute"
        ]
      }
    },
    "SecurityIps": {
      "Description": "The modified IP address whitelist.",
      "Value": {
        "Fn::GetAtt": [
          "Whitelist",
          "SecurityIps"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Whitelist:
    Type: ALIYUN::REDIS::Whitelist
    Properties:
      InstanceId:
        Ref: InstanceId
      SecurityIpGroupName:
        Ref: SecurityIpGroupName
      SecurityIpGroupAttribute:
        Ref: SecurityIpGroupAttribute
      SecurityIps:
        Ref: SecurityIps
Parameters:
  InstanceId:
    Type: String
    Description: The globally unique ID of the ApsaraDB for Redis instance.
  SecurityIpGroupName:
    AllowedPattern: "[a-z][a-zA-Z0-9_]*[a-zA-Z0-9]"
    MinLength: 2
    Type: String
    Description: The name of the whitelist.
    MaxLength: 32
  SecurityIpGroupAttribute:
    Type: String
    Description: This parameter is empty by default. To distinguish attribute values, the whitelist for which this parameter is
set to hidden is not displayed in the console.
  SecurityIps:
    Type: String
    Description: The IP addresses in the IP address whitelist.
Outputs:
  SecurityIpGroupName:
    Description: The name of the whitelist.
    Value:
      Fn::GetAtt:
      - Whitelist
      - SecurityIpGroupName
  SecurityIpGroupAttribute:
    Description: The attribute value of the whitelist.
    Value:
      Fn::GetAtt:
      - Whitelist
      - SecurityIpGroupAttribute
  SecurityIps:
    Description: The modified IP address whitelist.
    Value:
      Fn::GetAtt:
      - Whitelist
      - SecurityIps
```

60.ROCKETMQ

60.1. ALIYUN::ROCKETMQ::Instance

ALIYUN::ROCKETMQ::Instance is used to create a Standard Edition instance.

Syntax

```
{
  "Type": "ALIYUN::ROCKETMQ::Instance",
  "Properties": {
    "Remark": String,
    "InstanceName": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Remark	String	No	Yes	The description of the instance.	The description can be up to 128 character in length.
InstanceName	String	Yes	Yes	The name of the instance.	The name must be 3 to 64 characters in length, and can contain letters, digits, hyphens (-), and underscores (_).
Tags	List	No	Yes	The tags of the instance.	A maximum of 20 tags can be specified. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- InstanceId: the ID of the instance.
- InstanceType: the type of the instance. If 1 is returned, the created instance is of the Standard Edition.
- HttpInternetEndpoint: the public HTTP endpoint.
- HttpInternetSecureEndpoint: the public HTTPS endpoint.
- TcpEndpoint: the TCP endpoint.
- HttpInternalEndpoint: the internal HTTP endpoint.
- InstanceName: the name of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceName": {
      "Type": "String",
      "Description": "The name of the instance, which contains 3 to 64 characters in Chinese or English.",
      "MinLength": 3,
      "MaxLength": 64
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Remark": {
      "Type": "String",
      "Description": "The remark of instance."
    }
  },
  "Resources": {
    "Instance": {
      "Type": "ALIYUN::ROCKETMQ::Instance",
      "Properties": {
        "InstanceName": {
          "Ref": "InstanceName"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Remark": {
          "Ref": "Remark"
        }
      }
    }
  },
  "Outputs": {
    "InstanceName": {
      "Description": "Instance name",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "InstanceName"
        ]
      }
    },
    "HttpInternalEndpoint": {
      "Description": "The internal HTTP endpoint for the Message Queue for Apache RocketMQ instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "HttpInternalEndpoint"
        ]
      }
    },
    "InstanceId": {
      "Description": "Instance ID created",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "InstanceId"
        ]
      }
    },
    "TcpEndpoint": {
      "Description": "The TCP endpoint for the Message Queue for Apache RocketMQ instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "TcpEndpoint"
```

```
        ]
      }
    },
    "HttpInternetEndpoint": {
      "Description": "The Internet HTTP endpoint for the Message Queue for Apache RocketMQ instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "HttpInternetEndpoint"
        ]
      }
    },
    "InstanceType": {
      "Description": "Instance Type",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "InstanceType"
        ]
      }
    },
    "HttpInternetSecureEndpoint": {
      "Description": "The Internet HTTPS endpoint for the Message Queue for Apache RocketMQ instance.",
      "Value": {
        "Fn::GetAtt": [
          "Instance",
          "HttpInternetSecureEndpoint"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InstanceName:
    Description: The name of the instance, which contains 3 to 64 characters in Chinese
      or English.
    MaxLength: 64
    MinLength: 3
    Type: String
  Remark:
    Description: The remark of instance.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  Instance:
    Properties:
      InstanceName:
        Ref: InstanceName
      Remark:
        Ref: Remark
      Tags:
        Ref: Tags
    Type: ALIYUN::ROCKETMQ::Instance
Outputs:
  HttpInternalEndpoint:
    Description: The internal HTTP endpoint for the Message Queue for Apache RocketMQ
      instance.
    Value:
      Fn::GetAtt:
      - Instance
      - HttpInternalEndpoint
  HttpInternetEndpoint:
    Description: The Internet HTTP endpoint for the Message Queue for Apache RocketMQ
      instance.
    Value:
      Fn::GetAtt:
      - Instance
      - HttpInternetEndpoint
  HttpInternetSecureEndpoint:
    Description: The Internet HTTPS endpoint for the Message Queue for Apache RocketMQ
      instance.
    Value:
      Fn::GetAtt:
      - Instance
      - HttpInternetSecureEndpoint
  InstanceId:
    Description: Instance ID created
    Value:
      Fn::GetAtt:
      - Instance
      - InstanceId
  InstanceName:
    Description: Instance name
    Value:
      Fn::GetAtt:
      - Instance
      - InstanceName
  InstanceType:
    Description: Instance Type
    Value:
      Fn::GetAtt:
      - Instance
      - InstanceType
  TcpEndpoint:
    Description: The TCP endpoint for the Message Queue for Apache RocketMQ instance.
    Value:
      Fn::GetAtt:
      - Instance
      - TcpEndpoint
```

For more examples, visit ROCKETMQ.json and ROCKETMQ.yml. In the examples, the ALIYUN::ROCKETMQ::Instance, ALIYUN::ROCKETMQ::Group, and ALIYUN::ROCKETMQ::Topic resource types are involved.

60.2. ALIYUN::ROCKETMQ::Group

ALIYUN::ROCKETMQ::Group is used to create a Group ID on the ROCKETMQ client. The Group ID that you create is used to publish and subscribe to messages.

Syntax

```
{
  "Type": "ALIYUN::ROCKETMQ::Group",
  "Properties": {
    "InstanceId": String,
    "GroupType": String,
    "Remark": String,
    "GroupId": String
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the instance corresponding to the group ID that you want to create.	N/A
GroupType	String	No	No	Protocol for a Group ID	Valid values: • tcp: The default value. A Group ID is applicable only when you send and receive messages over TCP. • http: a Group ID can be used only for sending and receiving HTTP messages.
Remark	String	No	No	Remarks	N/A
GroupId	String	Yes	No	The Group ID of the consumer cluster.	To `GID_` or `GID-` and can contain letters, digits, hyphen (-), and underscores (_). The description must be 5 to 64 characters in length.

Error code

Fn::GetAtt

- GroupType: The protocol to which the Group ID you created applies.
- InstanceId: The ID of the instance.
- GroupId: The ID of the created Group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Group": {
      "Type": "ALIYUN::ROCKETMQ::Group",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
```

```
        },
        "GroupType": {
          "Ref": "GroupType"
        },
        "Remark": {
          "Ref": "Remark"
        },
        "GroupId": {
          "Ref": "GroupId"
        }
      }
    }
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the instance."
    },
    "GroupType": {
      "Type": "String",
      "Description": "Group ID specifies the creation of applicable agreements. Group ID TCP protocol and the HTTP protocol can
not be shared, the need to create separately. Value as follows:\ntcp: Default, indicates Group ID is created only for the TCP p
rotocol messaging.\nhttp: represents the Group ID was created only for the HTTP protocol messaging.",
      "AllowedValues": [
        "tcp",
        "http"
      ]
    },
    "Remark": {
      "Type": "String",
      "Description": "The remarks on the request."
    },
    "GroupId": {
      "MinLength": 7,
      "Type": "String",
      "Description": "The group ID of the consumption cluster. When creating a group ID, pay attention to the following aspects
:\nA group ID starts with\"GID_\" or \"GID-\", and contains letters, numbers, hyphens (-), and underscores (_).\nA group ID ran
ges from 7 to 64 bytes.\nOnce a group ID is created, it cannot be edited anymore.",
      "MaxLength": 64
    }
  },
  "Outputs": {
    "GroupType": {
      "Description": "Group Type",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GroupType"
        ]
      }
    },
    "InstanceId": {
      "Description": "Instance ID",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "InstanceId"
        ]
      }
    },
    "GroupId": {
      "Description": "Group ID",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Group:
    Type: 'ALIYUN::ROCKETMQ::Group'
    Properties:
      InstanceId:
        Ref: InstanceId
      GroupType:
        Ref: GroupType
      Remark:
        Ref: Remark
      GroupId:
        Ref: GroupId
Parameters:
  InstanceId:
    Type: String
    Description: The ID of the instance.
  GroupType:
    Type: String
    Description: >-
      Group ID specifies the creation of applicable agreements. Group ID TCP
      protocol and the HTTP protocol can not be shared and the need to create
      separately. Value as follows:
      tcp: Default, indicates Group ID is created only for the TCP protocol
      messaging.
      http: represents the Group ID was created only for the HTTP protocol
      messaging.
    AllowedValues:
      -tcp
      -http
  Remark:
    Type: String
    Description: The remarks on the request.
  GroupId:
    MinLength: 7
    Type: String
    Description: >-
      The group ID of the consumption cluster. When creating a group ID, pay
      attention to the following aspects:
      A group ID starts with"GID_" or "GID-", and contains letters, numbers,
      hyphens (-), and underscores (_).
      A group ID ranges from 7 to 64 bytes.
      Once a group ID is created, it cannot be edited anymore.
    MaxLength: 64
Outputs:
  GroupType:
    Description: Group Type
    Value:
      'Fn::GetAtt':
        -Group
        -GroupType
  InstanceId:
    Description: Instance ID
    Value:
      'Fn::GetAtt':
        -Group
        - InstanceId
  GroupId:
    Description: Group ID
    Value:
      'Fn::GetAtt':
        -Group
        -GroupId
```

60.3. ALIYUN::ROCKETMQ::Topic

ALIYUN::ROCKETMQ::Topic is used to create a Topic.

Syntax

```
{
  "Type": "ALIYUN::ROCKETMQ::Topic",
  "Properties": {
    "InstanceId": String,
    "Topic": String,
    "Remark": String,
    "MessageType": Integer,
    "Perm": Integer
  }
}
```

Properties

Parameter	Data type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the instance corresponding to the topic that you want to create.	N/A
Topics	String	Yes	No	The name of the Topic that you want to create.	`CID` and `GID` is a reserved field of a Group ID. Topic Name cannot start with `CID` or `GID` which can start with any character that meets the requirement. The Topic name must be 3 to 64 characters in length and can contain letters, digits, hyphen (-), and underscores (_). • If namespaces are available in the instance for which the Topic is created, the Topic name must be unique in the instance and can be duplicated across instances. • If no namespace is available in the instance, the name of the Topic must be unique across instances and regions.
Remark	String	No	No	Remarks	N/A
MessageType	Integer	Yes	No	Message Type	Valid values: • 0: Normal message. • 1: Partitionally ordered message. • 2: Globally ordered message. • 4: Transactional message. • 5: Scheduled or delayed message.

Parameter	Data type	Required	Editable	Description	Constraint
Perm	Integer	No	Yes	Subscribe /publish permissions	Valid values: • 2: can be published • 4: Can subscribe • 6: can publish and subscribe

Error code

Fn::GetAtt

- InstanceId: The instance ID of the Topic.
- Topic: The name of the Topic.
- MessageType: The message type.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Topic": {
      "Type": "ALIYUN::ROCKETMQ::Topic",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "Topic": {
          "Ref": "Topic"
        },
        "Remark": {
          "Ref": "Remark"
        },
        "Perm": {
          "Ref": "Perm"
        },
        "MessageType": {
          "Ref": "MessageType"
        }
      }
    }
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the instance."
    },
    "Topic": {
      "Type": "String",
      "Description": "The name of the topic you want to create.\nNote:\n\"CID\" and \"GID\" are the reserved fields of a group
ID, and they cannot be the start of a topic name.\nIf namespaces are available in the instance for which the topic is created,
the topic name must be unique in the instance and can be duplicated across instances.\nIf no namespaces are available in the in
stance, the topic name must be unique both in the instance and across instances."
    },
    "Remark": {
      "Type": "String",
      "Description": "The remarks on the request. This parameter can be left blank."
    },
    "Perm": {
      "Type": "Number",
      "Description": "Set the read-write mode for the topic Valid values.:\n6: Both read and write operations are supported.\n4
: Write operation is prohibited.\n2: Read operation is prohibited.",
      "AllowedValues": [
        2,
        4,
        6
      ]
    },
    "MessageType": {
```

```
      "Type": "Number",
      "Description": "The type of the message. Valid values:\n0: normal message\n1: partitionally ordered message\n2: globally
ordered message\n4: transactional message\n5: scheduled/delayed message",
      "AllowedValues": [
        0,
        1,
        2,
        4,
        5
      ]
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The ID of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "InstanceId"
        ]
      }
    },
    "Topic": {
      "Description": "The name of the topic.",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "Topic"
        ]
      }
    },
    "MessageType": {
      "Description": "The type of the message.",
      "Value": {
        "Fn::GetAtt": [
          "Topic",
          "MessageType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Topic:
    Type: 'ALIYUN::ROCKETMQ::Topic'
    Properties:
      InstanceId:
        Ref: InstanceId
      Topic:
        Ref: Topic
      Remark:
        Ref: Remark
      Perm:
        Ref: Perm
      MessageType:
        Ref: MessageType
Parameters:
  InstanceId:
    Type: String
    Description: The ID of the instance.
  Topic:
    Type: String
    Description: >-
      The name of the topic you want to create.
      Note:
      "CID" and "GID" are the reserved fields of a group ID, and they cannot be
      the start of a topic name.
      If namespaces are available in the instance for which the topic is
      created, the topic name must be unique in the instance and can be
      duplicated across instances
```

```
      duplicated across instances.
      If no namespaces are available in the instance and the topic name must be
      unique both in the instance and across instances.
  Remark:
    Type: String
    Description: The remarks on the request. This parameter can be left blank.
  Perm:
    Type: Number
    Description: |-
      Set the read-write mode for the topic Valid values.
      6: Both read and write operations are supported.
      4: Write operation is prohibited.
      2: Read operation is prohibited.
    AllowedValues:
      - 2
      - 4
      - 6
  MessageType:
    Type: Number
    Description: |-
      The type of the message. Valid values:
      0: normal message
      1: partitionally ordered message
      2: globally ordered message
      4: transactional message
      5: scheduled/delayed message
    AllowedValues:
      -0
      - 1
      - 2
      - 4
      - 5
Outputs:
  InstanceId:
    Description: The ID of the instance.
    Value:
      'Fn::GetAtt':
        -Topic
        - InstanceId
  Topic:
    Description: The name of the topic.
    Value:
      'Fn::GetAtt':
        -Topic
        -Topic
  MessageType:
    Description: The type of the message.
    Value:
      'Fn::GetAtt':
        -Topic
        -MessageType
```

61.ROS

61.1. ALIYUN::ROS::AutoEnableService

ALIYUN::ROS::AutoEnableService is used to activate an Alibaba Cloud service.

Syntax

```
{
  "Type": "ALIYUN::ROS::AutoEnableService",
  "Properties": {
    "ServiceName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ServiceName	String	Yes	No	The name of the Alibaba Cloud service or feature.	Valid values: • AHAS: Application High Availability Service • ARMS: Application Real-Time Monitoring Service (ARMS) • ApiGateway: API Gateway • BatchCompute: Batch Compute • BrainIndustrial: Industrial Brain • CloudStorageGateway: Cloud Storage Gateway (CSG) • CMS: CloudMonitor • CR: Container Registry • CS: Container Service for Kubernetes (ACK) • DCDN: Dynamic Route for CDN (DCDN) • DataHub: DataHub • DataWorks: DataWorks • EDAS: Enterprise Distributed Application Service (EDAS) • EMAS: Enterprise Mobile Application Studio (EMAS) • FC: Function Compute • FNF: Serverless Workflow (SWF) • MaxCompute: MaxCompute • MNS: Message Service (MNS) • HBR: Hybrid Backup Recovery (HBR) • IMM: Intelligent Media Management • IOT: IoT Platform • KMS: Key Management Service (KMS) • NAS: Apsara File Storage NAS (NAS) • NLP: Natural Language Processing (NLP) • OSS: Object Storage Service (OSS) • OTS: Tablestore • PrivateLink: PrivateLink • PrivateZone: Alibaba Cloud DNS (DNS) • RocketMQ: Message Queue for Apache RocketMQ • SAE: Serverless App Engine (SAE) • SLS: Log Service • TrafficMirror: the traffic mirroring feature • VS: Video Surveillance System • Xtrace: Tracing Analysis

Return values

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ServiceName": {
      "Type": "String",
      "Description": "Which service to enable. Valid values:\nApiGateway: API Gateway\nBatchCompute: Batch Compute\nEMAS: Enter
prise Mobile Application Studio\nNAS: Network Attached Storage\nHBR: Hybrid Backup Recovery\nNLP: Natural Language Processing\n
OSS: Object Storage Service\nOTS: Table Store\nSLS: Log Service\n",
      "AllowedValues": [
        "IOT",
        "EMAS",
        "MaxCompute",
        "BatchCompute",
        "IMM",
        "Xtrace",
        "DataWorks",
        "FNF",
        "FC",
        "KMS",
        "CS",
        "CR",
        "DataHub",
        "EDAS",
        "CMS",
        "RocketMQ",
        "HBR",
        "ApiGateway",
        "NLP",
        "SLS",
        "NAS",
        "OSS",
        "MNS",
        "TrafficMirror",
        "ARMS",
        "SAE",
        "CloudStorageGateway",
        "PrivateZone",
        "DCDN",
        "VS",
        "AHAS",
        "BrainIndustrial",
        "OTS",
        "PrivateLink"
      ]
    }
  },
  "Resources": {
    "AutoEnableService": {
      "Type": "ALIYUN::ROS::AutoEnableService",
      "Properties": {
        "ServiceName": {
          "Ref": "ServiceName"
        }
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ServiceName:
    Type: String
    Description: |
      Which service to enable. Valid values:
      AHAS: Application High Availability Service
      ARMS: Realtime Monitoring Service
      ApiGateway: API Gateway
      BatchCompute: Batch Compute
      BrainIndustrial: Brain Industrial
      CloudStorageGateway: Cloud Storage Gateway
      CMS: Cloud Monitor Service
```

```
      CR: Container Registry
      CS: Container Service
      DataHub: Data Hub
      DataWorks: DataWorks
      DCDN: Dynamic Route for CDN
      EDAS: Enterprise Distributed Application Service
      EMAS: Enterprise Mobile Application Studio
      FC: Function Compute
      FNF: Serverless Workflow
      MaxCompute: MaxCompute
      NAS: Network Attached Storage
      MNS: Message Service (MNS)
      HBR: Hybrid Backup Recovery
      IMM: Intelligent Media Management
      IOT: IoT Platform
      KMS: Key Management Service
      NLP: Natural Language Processing
      OSS: Object Storage Service
      OTS: Table Store
      PrivateLink: Private Link
      PrivateZone: Private Zone
      RocketMQ: RocketMQ
      SAE: Serverless App Engine
      SLS: Log Service
      TrafficMirror: VPC Traffic Mirroring
      VS: Video Surveillance
      Xtrace: Tracing Anlaysis
    AllowedValues:
      - IOT
      - EMAS
      - MaxCompute
      - BatchCompute
      - IMM
      - Xtrace
      - DataWorks
      - FNF
      - FC
      - KMS
      - CS
      - CR
      - DataHub
      - EDAS
      - CMS
      - RocketMQ
      - HBR
      - ApiGateway
      - NLP
      - SLS
      - NAS
      - OSS
      - MNS
      - TrafficMirror
      - ARMS
      - SAE
      - CloudStorageGateway
      - PrivateZone
      - DCDN
      - VS
      - AHAS
      - BrainIndustrial
      - OTS
      - PrivateLink
Resources:
  AutoEnableService:
    Type: 'ALIYUN::ROS::AutoEnableService'
    Properties:
      ServiceName:
        Ref: ServiceName
```

To view more examples, visit AutoEnableService.json and AutoEnableService.yml.

61.2. ALIYUN::ROS::CustomResource

ALIYUN::ROS::CustomResource is used to create a custom resource.

In an ROS template, you can use the ALIYUN::ROS::CustomResource or Custom::*String* resource type to specify custom resources.

Custom resources provide a way for you to write custom provisioning logic in an ROS template and have ROS run the logic during a stack operation, such as when you create, update, or delete a stack. For more information, see Overview.

Custom resources must send responses to a presigned URL. If they cannot send responses to ROS, ROS will not receive a response and the stack operation fails. ResponseURL is used in the Internet and InnerResponseURL is used in the internal network of Alibaba Cloud.

Syntax

```
{
  "Type": "ALIYUN::ROS::CustomResource",
  "Properties": {
    "ServiceToken": String,
    "Timeout": Number,
    "Parameters": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
				The service token that is supplied by	Valid values: • Function Compute function: `acs:fc:<region_id>:<account_id>:services/<service_name>/functions/<function_name>` • MNS queue: `acs:mns:<region_id>:<account_id>:queues/<queue_name>` • MNS topic: `acs:mns:<region_id>:<account_id>:topics/<topic_name>` • HTTP or HTTPS URL: `web[options]:<url>` `options` is an optional parameter that can be set to `sync` and/or `idempotent`. When the preceding two values are combined, you must separate them with a comma (,).

Property	Type	Required	Editable	Description	Constraint
ServiceToken	String	Yes	No	the service provider to the template developer to access the service. The service token can be a Function Compute function, an MNS topic, an MNS queue, or an HTTP or HTTPS URL. It can be up to 512 characters in length.	`sync` indicates that the request is a synchronous request. This means that you can directly use the response of the request instead of waiting for the presigned URL callback. By default, the request is an asynchronous request and you must wait for the presigned URL callback. `idempotent` indicates that the request for creating resources is idempotent. If a network exception occurs or a 500 error code is returned, the request is retried. By default, the request for creating resources is not idempotent. Requests for updating and deleting resources must always be idempotent. Example: • acs:fc:cn-hangzhou:1234567 89:services/test-service/functions/test-function • acs:mns:cn-hangzhou:1234567 89:queues/test-queue • acs:mns:cn-hangzhou:1234567 89:topics/test-topic • web:https://example.com • web[sync]:http://example.com • web[sync,idempotent]:https://example.com

Property	Type	Required	Editable	Description	Constraint
Timeout	Number	Yes	Yes	The timeout period for ROS to wait for responses from the custom service provider. Unit: seconds.	• When `ServiceToken` is used to make an asynchronous HTTP or HTTPS request or access a Function Compute function, MNS topic, or MNS queue, `Timeout` is set to 60 by default. Valid values of this parameter are 1 to 43200. • When `ServiceToken` is used to make a synchronous HTTP or HTTPS request, the timeout period is 10 seconds and the `Timeout` parameter is ignored.
Parameters	Map	No	Yes	The parameters to be passed to the custom service provider. The property must be specified based on specifications provided by the custom service provider.	None.

Response parameters

Fn::GetAtt

- Outputs: the data received from the custom service provider. The data is an object in the map format.
- *: uses the key in Outputs as the specific value.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CustomResource": {
      "Type": "ALIYUN::ROS::CustomResource",
      "Properties": {
        "ServiceToken": {
          "Ref": "ServiceToken"
        },
        "Parameters": {
          "Ref": "Parameters"
        },
        "Timeout": {
          "Ref": "Timeout"
        }
      }
    }
  },
  "Parameters": {
    "ServiceToken": {
      "Type": "String",
      "Description": "The service token that was given to the template developer by the service provider to access the service.
Allowed values:- Function Compute: acs:fc:<region_id>:<account_id>:services/<service_name>/functions/<function_name>- MNS Queue
: acs:mns:<region_id>:<account_id>:queues/<queue_name>- MNS Topic: acs:mns:<region_id>:<account_id>:topics/<topic_name>- HTTP&H
TTPS: web[options]:<url>  Two options are supported:  - sync: sync HTTP&HTTPS request.  - idempotent: indicates that the Create
request is idempotent. Update and Delete requests should be always idempotent.Examples:  - acs:fc:cn-hangzhou:123456789:service
s/test-service/functions/test-function  - acs:mns:cn-hangzhou:123456789:queues/test-queue  - acs:mns:cn-hangzhou:123456789:topi
cs/test-topic  - web:https://example.com  - web[sync]:http://example.com  - web[sync,idempotent]:https://example.com",
      "MaxLength": 512
    },
    "Parameters": {
      "Type": "Json",
      "Description": "Parameters to be passed to service provider."
    },
    "Timeout": {
      "Default": 60,
      "Type": "Number",
      "Description": "Timeout seconds before service provider responses. It takes effects only if the type of ServiceToken is F
unction Compute, MNS Queue, MNS Topic or async HTTP&HTTPS request.Timeout seconds are always 10 for sync HTTP&HTTPS request.",
      "MaxValue": 43200,
      "MinValue": 1
    }
  },
  "Outputs": {
    "Outputs": {
      "Description": "Output data received from service provider.",
      "Value": {
        "Fn::GetAtt": [
          "CustomResource",
          "Outputs"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  CustomResource:
    Type: ALIYUN::ROS::CustomResource
    Properties:
      ServiceToken:
        Ref: ServiceToken
      Parameters:
        Ref: Parameters
      Timeout:
        Ref: Timeout
Parameters:
  ServiceToken:
    Type: String
    Description: 'The service token that was given to the template developer by the
      service provider to access the service.Allowed values:- Function Compute: acs:fc:<region_id>:<account_id>:services/<servi
ce_name>/functions/<function_name>-
      MNS Queue: acs:mns:<region_id>:<account_id>:queues/<queue_name>- MNS Topic:
      acs:mns:<region_id>:<account_id>:topics/<topic_name>- HTTP&HTTPS: web[options]:<url>  Two
      options are supported:  - sync: sync HTTP&HTTPS request.  - idempotent: indicates
      that the Create request is idempotent. Update and Delete requests should be
      always idempotent.Examples:  - acs:fc:cn-hangzhou:123456789:services/test-service/functions/test-function  -
      acs:mns:cn-hangzhou:123456789:queues/test-queue  - acs:mns:cn-hangzhou:123456789:topics/test-topic  -
      web:https://example.com  - web[sync]:http://example.com  - web[sync,idempotent]:https://example.com'
    MaxLength: 512
  Parameters:
    Type: Json
    Description: Parameters to be passed to service provider.
  Timeout:
    Default: 60
    Type: Number
    Description: Timeout seconds before service provider responses. It takes effects
      only if the type of ServiceToken is Function Compute, MNS Queue, MNS Topic or
      async HTTP&HTTPS request.Timeout seconds are always 10 for sync HTTP&HTTPS request.
    MaxValue: 43200
    MinValue: 1
Outputs:
  Outputs:
    Description: Output data received from service provider.
    Value:
      Fn::GetAtt:
      - CustomResource
      - Outputs
```

Remarks

- Specify a name for a custom resource type

  You can specify ALIYUN::ROS::CustomResource as the resource type of your custom resource or you can customize a resource type name. For example, you can use ALIYUN::ROS::CustomResource instead of Custom::MyCustomResourceTypeName.

  The name of a custom resource type can contain letters, digits, underscores (_), at signs (@), and hyphens (-). The name can be up to 68 characters in length. The resource type cannot be changed during a stack update.

  You can use your own resource type names to differentiate the types of custom resources in your stack. For example, if you have two custom resources that perform two different ping tests, you can name their resource type as Custom::PingTester instead of ALIYUN::ROS::CustomResource to identify them as ping testers.

- Replace custom resources during a stack update

  ROS does not allow you to change physical resource IDs of resources during a stack update.

- Retrieve return values

  For custom resources, return values are provided by the custom service provider and can be retrieved by calling Fn::GetAtt on the provider-defined attributes.

61.3. ALIYUN::ROS::Stack

ALIYUN::ROS::Stack is used to create a nested stack. You can have a maximum of five nested levels.

Nested stacks can themselves contain other nested stacks. This results in a hierarchy of stacks. The root stack is the top-level stack to which all the nested stacks belong. The template of the root stack is called the top-level template. The ALIYUN::ROS::Stack type nests a stack as a resource in a top-level template.

In a nested stack template, you can use outputs from one stack as inputs to another stack. To obtain the output of the nested stack, you can use the Fn::GetAtt function and set the function parameters to the name of the nested stack and the output value in the Outputs.NestedStackOutputName format. For more information, see Use nested stacks.

Syntax

```
{
  "Type": "ALIYUN::ROS::Stack",
  "Properties": {
    "TemplateURL": String,
    "TemplateBody": String,
    "TemplateId": String,
    "TemplateVersion": String,
    "TimeoutMins": Number,
    "Parameters": Map,
    "ResourceGroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TemplateURL	String	No	Yes	The URL of the file that contains the template body.	The file that contains the template body can be up to 524,288 bytes in size. The URL can be up to 1,024 bytes in length. The URL must point to a template that is located in an HTTP or HTTPS web server or an Object Storage Service (OSS) bucket. Example: `oss://ros/template/demo` or `oss://ros/template/demo?RegionId=cn-hangzhou`. If the region of the OSS bucket is not specified, the RegionId parameter value is used by default. You must specify one of the `TemplateURL`, `TemplateBody`, and `TemplateId` parameters. If all the parameters are specified, the `TemplateBody` parameter takes precedence.
TemplateBody	Map	No	Yes	The structure that contains the template body, which is used to facilitate the delivery of the template.	The content is raw data. Functions in the template body are not resolved in the parent stack. You must specify one of the `TemplateURL`, `TemplateBody`, and `TemplateId` parameters. If all the parameters are specified, the `TemplateBody` parameter takes precedence.
TemplateId	String	No	Yes	The ID of the template.	You must specify one of the `TemplateURL`, `TemplateBody`, and `TemplateId` parameters. If all the parameters are specified, the `TemplateBody` parameter takes precedence.
TemplateVersion	String	No	Yes	The name of the template version.	None
TimeoutMins	Number	No	Yes	The timeout period for creating or updating a stack.	Unit: minutes. Default value: 60.

Property	Type	Required	Editable	Description	Constraint
Parameters	Map	No	Yes	A set of key-value pairs that represent the parameters passed to Resource Orchestration Service (ROS) when the nested stack is created.	Each parameter has a key corresponding to a parameter name defined in the template of the nested stack and a value representing the value that you want to set for the parameter. This parameter is required if the nested stack requires input parameters.
ResourceGroupId	String	No	No	The ID of the resource group.	None

Response parameters

Fn::GetAtt

You can use the following code to obtain the output of the nested stack:

```
{
  "Fn::GetAtt": [
    "<nested_stack>",
    "Outputs.<nested_stack_output_name>"
  ]
}
```

When you use `Ref` to reference resources in a nested stack, the Alibaba Cloud Resource Name (ARN) of the nested stack is returned. Example: `arn:acs:ros::cn-hangzhou:12345****:stacks/test-nested-stack-Demo-jzkyq7mn****/e71c1e04-1a57-46fc-b9a4-cf7ce0d3****` .

Examples

- The following code provides an example on how to create a virtual private cloud (VPC), a vSwitch, and a security group in a nested stack and save the output results to the *oss://ros/template/vpc.txt* directory:

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": "One VPC, vSwitch, security group.",
  "Parameters": {
    "ZoneId": {
      "Type": "String",
      "Description": "The available zone"
    },
    "SecurityGroupName": {
      "Type": "String",
      "Description": "The security group name",
      "Default": "my-sg-name"
    },
    "VpcName": {
      "Type": "String",
      "Description": "The VPC name",
      "MinLength": 2,
      "MaxLength": 128,
      "ConstraintDescription": "[2, 128] English or Chinese letters",
      "Default": "my-vpc-name"
    },
    "VpcCidrBlock": {
      "Type": "String",
      "AllowedValues": [
        "192.168.0.0/16",
        "172.16.0.0/12",
        "10.0.0.0/8"
      ],
      "Default": "10.0.0.0/8"
    },
    "VSwitchCidrBlock": {
      "Type": "String",
      "Description": "The vSwitch subnet which must be within VPC",
      "Default": "10.0.10.0/24"
    },
    "UpdateVersion": {
      "Type": "Number",
```

```
      "Default": 0
    }
  },
  "Resources": {
    "Vpc": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": {
          "Ref": "VpcCidrBlock"
        },
        "VpcName": {
          "Ref": "VpcName"
        }
      }
    },
    "VSwitch": {
      "Type": "ALIYUN::ECS::VSwitch",
      "Properties": {
        "CidrBlock": {
          "Ref": "VSwitchCidrBlock"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VpcId": {
          "Fn::GetAtt": [
            "Vpc",
            "VpcId"
          ]
        }
      }
    },
    "SecurityGroup": {
      "Type": "ALIYUN::ECS::SecurityGroup",
      "Properties": {
        "SecurityGroupName": {
          "Ref": "SecurityGroupName"
        },
        "VpcId": {
          "Ref": "Vpc"
        }
      }
    },
    "WaitConditionHandle": {
      "Type": "ALIYUN::ROS::WaitConditionHandle",
      "Properties": {
        "UpdateVersion": {
          "Ref": "UpdateVersion"
        }
      }
    }
  },
  "Outputs": {
    "SecurityGroupId": {
      "Value": {
        "Fn::GetAtt": [
          "SecurityGroup",
          "SecurityGroupId"
        ]
      }
    },
    "VpcId": {
      "Value": {
        "Fn::GetAtt": [
          "Vpc",
          "VpcId"
        ]
      }
    },
    "VSwitchId": {
      "Value": {
        "Fn::GetAtt": [
          "VSwitch",
          "VSwitchId"
        ]
```

```
        }
      }
    }
  }
```

- Example of a parent stack

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": "One ECS instance.",
  "Parameters": {
    "ImageId": {
      "Default": "centos_7",
      "Type": "String",
      "Description": "Image Id, represents the image resource to startup the ECS instance"
    },
    "InstanceType": {
      "Type": "String",
      "Description": "The ECS instance type,",
      "Default": "ecs.xn4.small"
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The available zone "
    },
    "InstanceChargeType": {
      "Type": "String",
      "AllowedValues": [
        "PrePaid",
        "PostPaid"
      ],
      "Default": "PostPaid",
      "Description": "The instance charge type"
    },
    "SecurityGroupName": {
      "Type": "String",
      "Description": "The security group name",
      "Default": "my-sg-name"
    },
    "NetworkInterfaceName": {
      "Type": "String",
      "Description": "The Network interface name",
      "Default": "my-eni-name"
    },
    "VpcName": {
      "Type": "String",
      "Description": "The VPC name",
      "MinLength": 2,
      "MaxLength": 128,
      "ConstraintDescription": "[2, 128] English or Chinese letters",
      "Default": "my-vpc-name"
    },
    "IoOptimized": {
      "AllowedValues": [
        "none",
        "optimized"
      ],
      "Description": "IO optimized, optimized is for the IO optimized instance type",
      "Type": "String",
      "Default": "optimized"
    },
    "SystemDiskCategory": {
      "AllowedValues": [
        "cloud",
        "cloud_efficiency",
        "cloud_ssd"
      ],
      "Description": "System disk category: average cloud disk(cloud), efficient cloud disk(cloud_efficiency) or SSD cloud di
sk(cloud_ssd)",
      "Type": "String",
      "Default": "cloud_ssd"
    },
    "VpcCidrBlock": {
      "Type": "String",
```

```
      "AllowedValues": [
        "192.168.0.0/16",
        "172.16.0.0/12",
        "10.0.0.0/8"
      ],
      "Default": "10.0.0.0/8"
    },
    "VSwitchCidrBlock": {
      "Type": "String",
      "Description": "The VSwitch subnet which must be within VPC",
      "Default": "10.0.10.0/24"
    },
    "UpdateVersion": {
      "Type": "Number",
      "Default": 0
    }
  },
  "Resources": {
    "NetworkStack": {
      "Type": "ALIYUN::ROS::Stack",
      "Properties": {
        "TemplateURL": "oss://ros/template/vpc.txt",
        "TimeoutMins": 5,
        "Parameters": {
          "ZoneId": {
            "Ref": "ZoneId"
          },
          "SecurityGroupName": {
            "Ref": "SecurityGroupName"
          },
          "VpcName": {
            "Ref": "VpcName"
          },
          "VpcCidrBlock": {
            "Ref": "VpcCidrBlock"
          },
          "VSwitchCidrBlock": {
            "Ref": "VSwitchCidrBlock"
          },
          "UpdateVersion": {
            "Ref": "UpdateVersion"
          }
        }
      }
    },
    "WebServer": {
      "Type": "ALIYUN::ECS::Instance",
      "Properties": {
        "ImageId": {
          "Ref": "ImageId"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "SecurityGroupId": {
          "Fn::GetAtt": [
            "NetworkStack",
            "Outputs.SecurityGroupId"
          ]
        },
        "VpcId": {
          "Fn::GetAtt": [
            "NetworkStack",
            "Outputs.VpcId"
          ]
        },
        "VSwitchId": {
          "Fn::GetAtt": [
            "NetworkStack",
            "Outputs.VSwitchId"
          ]
```

```
        },
        "IoOptimized": {
          "Ref": "IoOptimized"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "SystemDisk_Category": {
          "Ref": "SystemDiskCategory"
        },
        "DiskMappings": [
          {
            "Category": "cloud_ssd",
            "Size": 20
          }
        ]
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Value": {
        "Fn::GetAtt": [
          "WebServer",
          "InstanceId"
        ]
      }
    },
    "PublicIp": {
      "Value": {
        "Fn::GetAtt": [
          "WebServer",
          "PublicIp"
        ]
      }
    },
    "SecurityGroupId": {
      "Value": {
        "Fn::GetAtt": [
          "NetworkStack",
          "Outputs.SecurityGroupId"
        ]
      }
    },
    "VpcId": {
      "Value": {
        "Fn::GetAtt": [
          "NetworkStack",
          "Outputs.VpcId"
        ]
      }
    },
    "VSwitchId": {
      "Value": {
        "Fn::GetAtt": [
          "NetworkStack",
          "Outputs.VSwitchId"
        ]
      }
    },
    "NetworkStackArn": {
      "Value": {
        "Ref": "NetworkStack"
      }
    }
  }
}
```

For more examples, see MongoDBInstance.json and MongoDBInstance.yml.

61.4. ALIYUN::ROS::Sleep

ALIYUN::ROS::Sleep is used to delay the creation, deletion, update, and rollback of other resources.

Syntax

```
{
  "Type": "ALIYUN::ROS::Sleep",
  "Properties": {
    "DeleteDuration": Number,
    "UpdateRollbackDuration": Number,
    "UpdateDuration": Number,
    "CreateDuration": Number,
    "Triggers": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DeleteDuration	Number	No	Yes	The time to wait before the resource is deleted.	Valid values: 0 to 1800. Unit: seconds.
UpdateRollbackDuration	Number	No	Yes	The time to wait before a resource update is rolled back.	This property takes effect only if the stack is being rolled back and the value of the Triggers property is changed. Valid values: 0 to 1800. Unit: seconds.
UpdateDuration	Number	No	Yes	The time to wait before the resource is updated.	This property takes effect only if the stack is being updated and the value of the Triggers property is changed. Valid values: 0 to 1800. Unit: seconds.
CreateDuration	Number	No	No	The time to wait before the resource is created.	Valid values: 0 to 1800. Unit: seconds.
Triggers	Map	No	Yes	The triggers that trigger the wait for a resource update and the wait for a resource update rollback.	The UpdateDuration or UpdateRollbackDuration property takes effect only if the stack is being updated or rolled back and the value of the Triggers property is changed.

Response parameters

Fn::GetAtt

N/A

Examples

In this example, the following resources are defined:

- VPC: a virtual private cloud (VPC)
- VSwitch: a vSwitch
- SecurityGroup: a security group
- Sleep: a custom delay period
- CenterServer and OtherServer: two Elastic Compute Service (ECS) instances

The following content describes the two ECS instances that are created in the VPC:

- The CenterServer instance contains a custom script. You need to deploy an NGINX service to send the public key on the CenterServer instance to the OtherServer instance. This way, the CenterServer instance can connect to the OtherServer instance without a password. The OtherServer instance can access services on the CenterServer instance base on the script on the OtherServer instance.
- Set the CreateDuration property to 60. Unit: seconds. Wait for the application on the CenterServer instance to be deployed so that the OtherServer instance can access services on the CenterServer instance.

Note You must specify the time to wait because the application on the CenterServer instance needs time to be installed and started after the CenterServer instance is created.

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ZoneId": {
      "Type": "String",
      "Label": "Availability Zone",
      "AssociationProperty": "ALIYUN::ECS::Instance::ZoneId",
      "Description": "VSwitch available Zone Id,"
    },
    "CreateDuration": {
      "Type": "Number",
      "Description": "The number of seconds to wait before resource creation.",
      "MinValue": 0,
      "MaxValue": 1800,
      "Default": 60
    },
    "InstanceType": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::Instance::InstanceType",
      "Label": {
        "en": "Instance Type",
      },
      "Description": "Fill in specifications that can be used under the VSwitch availability zone.",
      "AssociationPropertyMetadata": {
        "ZoneId": "${ZoneId}"
      }
    },
    "SystemDiskCategory": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::Disk::SystemDiskCategory",
      "AssociationPropertyMetadata": {
        "ZoneId": "${ZoneId}",
        "InstanceType": "${InstanceType}"
      },
      "Label": "System Disk Category"
    },
    "InstancePassword": {
      "NoEcho": true,
      "Type": "String",
      "Description": "Server login password, Length 8-30, must contain three(Capital letters, lowercase letters, numbers.",
      "Label": "Instance Password",
      "MinLength": 8,
      "MaxLength": 30
    }
  },
  "Resources": {
    "VPC": {
      "Type": "ALIYUN::ECS::VPC",
      "Properties": {
        "CidrBlock": "10.0.0.0/16"
      }
    },
    "VSwitch": {
      "Type": "ALIYUN::ECS::VSwitch",
      "Properties": {
        "VpcId": {
          "Ref": "VPC"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "CidrBlock": "10.0.1.0/24"
      }
    },
    "SecurityGroup": {
      "Type": "ALIYUN::ECS::SecurityGroup",
      "Properties": {
        "VpcId": {
          "Ref": "VPC"
        },
```

```
        "SecurityGroupIngress": [
          {
            "Priority": 1,
            "PortRange": "80/80",
            "NicType": "intranet",
            "SourceCidrIp": "0.0.0.0/0",
            "IpProtocol": "tcp"
          },
          {
            "Priority": 1,
            "PortRange": "22/22",
            "NicType": "intranet",
            "SourceCidrIp": "100.104.0.0/16",
            "IpProtocol": "tcp"
          }
        ]
      }
    },
    "WaitConditionHandle": {
      "Type": "ALIYUN::ROS::WaitConditionHandle"
    },
    "CenterServer": {
      "Type": "ALIYUN::ECS::InstanceGroup",
      "Properties": {
        "InstanceName": "ControlServer",
        "ImageId": "centos_7.9",
        "VpcId": {
          "Ref": "VPC"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroup"
        },
        "VSwitchId": {
          "Ref": "VSwitch"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        },
        "Password": {
          "Ref": "InstancePassword"
        },
        "MaxAmount": 1,
        "AllocatePublicIP": false,
        "SystemDiskSize": "40",
        "InstanceChargeType": "PostPaid",
        "SystemDiskCategory": {
          "Ref": "SystemDiskCategory"
        },
        "UserData": {
          "Fn::Replace": [
            {
              "ros-notify": {
                "Fn::GetAtt": [
                  "WaitConditionHandle",
                  "CurlCli"
                ]
              }
            },
            {
              "Fn::Join": [
                "\n",
                [
                  "#!/bin/sh",
                  "ssh-keygen -t rsa -P '' -f ~/.ssh/id_rsa",
                  "cat ~/.ssh/id_rsa.pub >> ~/.ssh/authorized_keys",
                  "chmod 0600 ~/.ssh/authorized_keys",
                  "pub_key=`cat /root/.ssh/id_rsa.pub`",
                  "ros-notify -d \"{\\\"status\\\" : \\\"SUCCESS\\\",\\\"id\\\" : \\\"ssh_pub_key\\\", \\\"data\\\" : \\\"$pub_
key\\\"}\" ",
                  "yum install -y nginx",
                  "mkdir -p /data/nginx",
                  "echo \"Hello World! This is service client ecs.\" > /data/nginx/index.html",
                  "echo 'server {' >> /etc/nginx/conf.d/server.conf ",
                  "echo 'listen 80;' >> /etc/nginx/conf.d/server.conf ",
```

```
                "echo 'server_name _;' >> /etc/nginx/conf.d/server.conf ",
                "echo 'index index.html;' >> /etc/nginx/conf.d/server.conf ",
                "echo 'root /data/nginx;' >> /etc/nginx/conf.d/server.conf ",
                "echo '}' >> /etc/nginx/conf.d/server.conf ",
                "systemctl stop nginx",
                "systemctl start nginx",
                "systemctl enable nginx"
              ]
            ]
          }
        ]
      }
    }
  },
  "WaitCondition": {
    "Type": "ALIYUN::ROS::WaitCondition",
    "Properties": {
      "Count": 1,
      "Handle": {
        "Ref": "WaitConditionHandle"
      },
      "Timeout": 1800
    }
  },
  "Sleep": {
    "Type": "ALIYUN::ROS::Sleep",
    "DependsOn": "WaitCondition",
    "Properties": {
      "CreateDuration": {
        "Ref": "CreateDuration"
      }
    }
  },
  "OtherServer": {
    "Type": "ALIYUN::ECS::InstanceGroup",
    "DependsOn": "Sleep",
    "Properties": {
      "InstanceName": "OtherServer",
      "ImageId": "centos_7.9",
      "VpcId": {
        "Ref": "VPC"
      },
      "SecurityGroupId": {
        "Ref": "SecurityGroup"
      },
      "VSwitchId": {
        "Ref": "VSwitch"
      },
      "InstanceType": {
        "Ref": "InstanceType"
      },
      "Password": {
        "Ref": "InstancePassword"
      },
      "MaxAmount": 1,
      "AllocatePublicIP": false,
      "SystemDiskSize": 40,
      "InstanceChargeType": "PostPaid",
      "SystemDiskCategory": {
        "Ref": "SystemDiskCategory"
      },
      "UserData": {
        "Fn::Join": [
          "",
          [
            "#!/bin/sh\n",
            "ssh_pub_key='",
            {
              "Fn::GetAtt": [
                "WaitCondition",
                "Data"
              ]
            },
            "'\n",
```

```
              "yum install -y jq\n",
              "pub_key=`echo \"$ssh_pub_key\" | jq '.ssh_pub_key' | xargs echo `\n",
              "echo \"$pub_key\" > /root/.ssh/authorized_keys\n",
              "chmod 600 /root/.ssh/authorized_keys\n",
              "curl ",
              {
                "Fn::Select": [
                  "0",
                  {
                    "Fn::GetAtt": [
                      "CenterServer",
                      "PrivateIps"
                    ]
                  }
                ]
              },
              ":80\n"
            ]
          ]
        }
      }
    }
  }
}
```

61.5. ALIYUN::ROS::WaitCondition

ALIYUN::ROS::WaitCondition is used to create an instance to process UserData messages.

Syntax

```
{
  "Type": "ALIYUN::ROS::WaitCondition",
  "Properties": {
    "Count": Number,
    "Handle": String,
    "Timeout": Number
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Handle	String	Yes	No	The instance created by calling ALIYUN::ROS::WaitConditionHandle.	None.
Timeout	Number	Yes	No	The length of time to wait for UserData messages to arrive.	Valid values: 1 to 43200. Unit: seconds.
Count	Number	No	Yes	The total number of UserData messages to be received.	None.

Response parameters

Fn::GetAtt

- Data: a JSON string that contains the signal data sent to the handle after the most recent stack creation or update.
- JoinedErrorData: a string that contains data associated with wait condition error signals sent to the handle.
- ErrorData: a JSON string that contains the error signal data sent to the handle after the most recent stack creation or update.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
  "Parameters": {
    "Timeout": {
      "Type": "Number",
      "Description": "The number of seconds to wait for the correct number of signals to arrive.",
      "MinValue": 1,
      "MaxValue": 43200
    },
    "Count": {
      "Type": "Number",
      "Description": "The number of success signals that must be received before the stack creation process continues.",
      "Default": 1
    },
    "Handle": {
      "Type": "String",
      "Description": "A reference to the wait condition handle used to signal this wait condition."
    }
  },
  "Resources": {
    "WaitCondition": {
      "Type": "ALIYUN::ROS::WaitCondition",
      "Properties": {
        "Timeout": {
          "Ref": "Timeout"
        },
        "Count": {
          "Ref": "Count"
        },
        "Handle": {
          "Ref": "Handle"
        }
      }
    }
  },
  "Outputs": {
    "LastErrorData": {
      "Description": "JSON serialized dict containing data associated with wait condition error signals sent to the handle back
up by update last time.",
      "Value": {
        "Fn::GetAtt": [
          "WaitCondition",
          "LastErrorData"
        ]
      }
    },
    "JoinedLastErrorData": {
      "Description": "String containing data associated with wait condition error signals sent to the handle backup by update l
ast time.",
      "Value": {
        "Fn::GetAtt": [
          "WaitCondition",
          "JoinedLastErrorData"
        ]
      }
    },
    "LastData": {
      "Description": "JSON serialized dict containing data associated with wait condition signals sent to the handle backup by
update last time.",
      "Value": {
        "Fn::GetAtt": [
          "WaitCondition",
          "LastData"
        ]
      }
    },
    "JoinedErrorData": {
      "Description": "String containing data associated with wait condition error signals sent to the handle.",
      "Value": {
        "Fn::GetAtt": [
          "WaitCondition",
          "JoinedErrorData"
        ]
      }
    },
    "Data": {
      "Description": "JSON serialized dict containing data associated with wait condition signals sent to the handle."
```

```
      "Description": "JSON serialized dict containing data associated with wait condition signals sent to the handle.",
      "Value": {
        "Fn::GetAtt": [
          "WaitCondition",
          "Data"
        ]
      }
    },
    "ErrorData": {
      "Description": "JSON serialized dict containing data associated with wait condition error signals sent to the handle.",
      "Value": {
        "Fn::GetAtt": [
          "WaitCondition",
          "ErrorData"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Timeout:
    Type: Number
    Description: The number of seconds to wait for the correct number of signals to arrive.
    MinValue: 1
    MaxValue: 43200
  Count:
    Type: Number
    Description: >-
      The number of success signals that must be received before the stack
      creation process continues.
    Default: 1
  Handle:
    Type: String
    Description: >-
      A reference to the wait condition handle used to signal this wait
      condition.
Resources:
  WaitCondition:
    Type: 'ALIYUN::ROS::WaitCondition'
    Properties:
      Timeout:
        Ref: Timeout
      Count:
        Ref: Count
      Handle:
        Ref: Handle
Outputs:
  LastErrorData:
    Description: >-
      JSON serialized dict containing data associated with wait condition error
      signals sent to the handle backup by update last time.
    Value:
      'Fn::GetAtt':
        - WaitCondition
        - LastErrorData
  JoinedLastErrorData:
    Description: >-
      String containing data associated with wait condition error signals sent
      to the handle backup by update last time.
    Value:
      'Fn::GetAtt':
        - WaitCondition
        - JoinedLastErrorData
  LastData:
    Description: >-
      JSON serialized dict containing data associated with wait condition
      signals sent to the handle backup by update last time.
    Value:
      'Fn::GetAtt':
        - WaitCondition
```

```
        - LastData
  JoinedErrorData:
    Description: >-
      String containing data associated with wait condition error signals sent
      to the handle.
    Value:
      'Fn::GetAtt':
        - WaitCondition
        - JoinedErrorData
  Data:
    Description: >-
      JSON serialized dict containing data associated with wait condition
      signals sent to the handle.
    Value:
      'Fn::GetAtt':
        - WaitCondition
        - Data
  ErrorData:
    Description: >-
      JSON serialized dict containing data associated with wait condition error
      signals sent to the handle.
    Value:
      'Fn::GetAtt':
        - WaitCondition
        - ErrorData
```

61.6. ALIYUN::ROS::WaitConditionHandle

ALIYUN::ROS::WaitConditionHandle is used to create an instance that sends and receives messages when user data is being executed.

Syntax

```
{
  "Type": "ALIYUN::ROS::WaitConditionHandle",
  "Properties": {
    "Count": Integer,
    "Mode": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Count	Integer	No	Yes	The total number of messages to be received.	The default value is -1, which specifies that the property does not take effect. This property takes effect when the following conditions are met: • The value of Mode is Full. • The value of Count is greater than or equal to 0. • No signal ID is specified. Signal IDs must be integers that start from 1. The signal ID increments by 1 for each subsequent signal. For example, if the ID of the first signal is 1, the ID of the second signal is 2. If Count takes effect, the signals whose IDs are greater than the Count value are deleted before the update begins.
Mode	String	No	Yes	The mode of the instance.	Default value: Full. Valid values: • Increment: All signals are deleted before they are updated. • Full: No signals are deleted if you do not configure Count.

Response parameters

Fn::GetAtt

- CurlCli: a cURL command that is generated by the resource. You can use the command to send the user data execution result or status to Resource Orchestration Service (ROS).
- WindowsCurlCli: provides Windows with cURL CLI command prefixes and sends a message that indicates whether the execution is successful or failed. Windows does not support the cURL command. Therefore, you must manually install curl.exe and add it to PATH. You can add `--data-binary "{\"status\": \" SUCCESS \"}"` to indicate that the execution is successful, and add `--data-binary "{\"status\": \" FAILURE \"}"` to indicate that the execution failed.
- PowerShellCurlCli: provides PowerShell with cURL CLI command prefixes and sends a message that indicates whether the execution is successful or failed. cmdlet is introduced in PowerShell 3.0. Therefore, you must make sure that your version of PowerShell satisfies the constraints. You can use the `$PSVersionTable.PSVersion` command to query the version number. You can add `-Body '{"status": " SUCCESS "}'` to indicate that the execution is successful, and add `-Body '{"status": "FAILURE "}'` to indicate that the execution failed.
- Headers: the HTTP POST request headers used to send a message that indicates whether the execution is successful or failed.
- URL: the HTTP POST request URL used to send a message that indicates whether the execution is successful or failed.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Mode": {
      "Type": "String",
      "Description": "If set to Increment, all old signals will be deleted before update. In this mode, WaitCondition.Count should reference an incremental value instead of a full value, such as ScalingGroupEnable.ScalingRuleArisExecuteResultNumberOfAddedInstances.\n\nIf set to Full, no old signal will be deleted unless Count is set. In this mode, WaitCondition.Count should reference a full value, such as the same value with InstanceGroup.MaxAmount. It is recommended to use this mode with Count.\n\nDefault to Full.",
      "AllowedValues": [
        "Increment",
        "Full"
      ],
      "Default": "Full"
    },
    "Count": {
      "Type": "Number",
      "Description": "There are 3 preconditions that make Count taking effect:\n1.Mode is set to Full.\n2.Count >= 0.\n3.The id of signal is not specified. If so, it will be a self-increasing integer started from 1. For example, the id of the first signal is 1, the id of the second signal is 2, and so on.\n\nIf Count takes effect, signals with id > Count will be deleted before update.\nThe default value is -1, which means no effect.\nIt is recommended to quote the same value with WaitCondition.Count.",
      "Default": -1
    }
  },
  "Resources": {
    "WaitConditionHandle": {
      "Type": "ALIYUN::ROS::WaitConditionHandle",
      "Properties": {
        "Mode": {
          "Ref": "Mode"
        },
        "Count": {
          "Ref": "Count"
        }
      }
    }
  },
  "Outputs": {
    "CurlCli": {
      "Description": "Convenience attribute, provides curl CLI command prefix, which can be used for signalling handle completion or failure.  You can signal success by adding --data-binary '{\"status\": \"SUCCESS\"}' , or signal failure by adding --data-binary '{\"status\": \"FAILURE\"}'",
      "Value": {
        "Fn::GetAtt": [
          "WaitConditionHandle",
          "CurlCli"
        ]
      }
    },
    "WindowsCurlCli": {
      "Description": "Convenience attribute, provides curl CLI command prefix for Windows, which can be used for signalling handle completion or failure. As Windows does not support curl command, you need to install curl.exe and add it to PATH first. You can signal success by adding --data-binary \"{\\\"status\\\": \\\"SUCCESS\\\"}\" , or signal failure by adding --data-binary \"
```

```
{\\\"status\\\": \\\"FAILURE\\\"}\" ",
      "Value": {
        "Fn::GetAtt": [
          "WaitConditionHandle",
          "WindowsCurlCli"
        ]
      }
    },
    "Headers": {
      "Description": "HTTP POST Headers used for signalling handle completion or failure.",
      "Value": {
        "Fn::GetAtt": [
          "WaitConditionHandle",
          "Headers"
        ]
      }
    },
    "URL": {
      "Description": "HTTP POST URL used for signalling handle completion or failure.",
      "Value": {
        "Fn::GetAtt": [
          "WaitConditionHandle",
          "URL"
        ]
      }
    },
    "PowerShellCurlCli": {
      "Description": "Convenience attribute, provides curl CLI command prefix for PowerShell, which can be used for signalling
handle completion or failure. As this cmdlet was introduced in PowerShell 3.0, ensure the version of PowerShell satisfies the c
onstraint. (Show the version via $PSVersionTable.PSVersion.) You can signal success by adding -Body '{\"status\": \"SUCCESS\"}'
, or signal failure by adding -Body '{\"status\": \"FAILURE\"}' ",
      "Value": {
        "Fn::GetAtt": [
          "WaitConditionHandle",
          "PowerShellCurlCli"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Mode:
    Type: String
    Description: >-
      If set to Increment, all old signals will be deleted before update. In
      this mode, WaitCondition.Count should reference an incremental value
      instead of a full value, such as
      ScalingGroupEnable.ScalingRuleArisExecuteResultNumberOfAddedInstances.
      If set to Full, no old signal will be deleted unless Count is set. In this
      mode, WaitCondition.Count should reference a full value, such as the same
      value with InstanceGroup.MaxAmount. It is recommended to use this mode
      with Count.
      Default to Full.
    AllowedValues:
      - Increment
      - Full
    Default: Full
  Count:
    Type: Number
    Description: >-
      There are 3 preconditions that make Count taking effect:
      1.Mode is set to Full.
      2.Count >= 0.
      3.The id of signal is not specified. If so, it will be a self-increasing
      integer started from 1. For example, the id of the first signal is 1, the
      id of the second signal is 2, and so on.
      If Count takes effect, signals with id > Count will be deleted before
      update.
      The default value is -1, which means no effect.
      It is recommended to quote the same value with WaitCondition.Count
```

```
      It is recommended to quote the same value with WaitCondition.Count.
    Default: -1
Resources:
  WaitConditionHandle:
    Type: 'ALIYUN::ROS::WaitConditionHandle'
    Properties:
      Mode:
        Ref: Mode
      Count:
        Ref: Count
Outputs:
  CurlCli:
    Description: >-
      Convenience attribute, provides curl CLI command prefix, which can be used
      for signalling handle completion or failure.  You can signal success by
      adding --data-binary '{"status": "SUCCESS"}' , or signal failure by adding
      --data-binary '{"status": "FAILURE"}'
    Value:
      'Fn::GetAtt':
        - WaitConditionHandle
        - CurlCli
  WindowsCurlCli:
    Description: >-
      Convenience attribute, provides curl CLI command prefix for Windows, which
      can be used for signalling handle completion or failure. As Windows does
      not support curl command, you need to install curl.exe and add it to PATH
      first. You can signal success by adding --data-binary "{\"status\":
      \"SUCCESS\"}" , or signal failure by adding --data-binary "{\"status\":
      \"FAILURE\"}"
    Value:
      'Fn::GetAtt':
        - WaitConditionHandle
        - WindowsCurlCli
  Headers:
    Description: HTTP POST Headers used for signalling handle completion or failure.
    Value:
      'Fn::GetAtt':
        - WaitConditionHandle
        - Headers
  URL:
    Description: HTTP POST URL used for signalling handle completion or failure.
    Value:
      'Fn::GetAtt':
        - WaitConditionHandle
        - URL
  PowerShellCurlCli:
    Description: >-
      Convenience attribute, provides curl CLI command prefix for PowerShell,
      which can be used for signalling handle completion or failure. As this
      cmdlet was introduced in PowerShell 3.0, ensure the version of PowerShell
      satisfies the constraint. (Show the version via
      $PSVersionTable.PSVersion.) You can signal success by adding -Body
      '{"status": "SUCCESS"}' , or signal failure by adding -Body '{"status":
      "FAILURE"}'
    Value:
      'Fn::GetAtt':
        - WaitConditionHandle
        - PowerShellCurlCli
```

For more examples, visit SLS.json and SLS.yml.

62.SAE

62.1. ALIYUN::SAE::Application

ALIYUN::SAE::Application is used to create an application in Serverless App Engine (SAE).

Syntax

```
{
  "Type": "ALIYUN::SAE::Application",
  "Properties": {
    "Timezone": String,
    "AppDescription": String,
    "MountDesc": String,
    "NasId": String,
    "WarStartOptions": String,
    "Liveness": String,
    "Memory": Integer,
    "WebContainer": String,
    "SlsConfigs": String,
    "Cpu": Integer,
    "Deploy": Boolean,
    "PackageVersion": String,
    "AppName": String,
    "Jdk": String,
    "JarStartArgs": String,
    "PreStop": String,
    "Readiness": String,
    "PackageType": String,
    "CommandArgs": String,
    "Envs": String,
    "VSwitchId": String,
    "ImageUrl": String,
    "PostStart": String,
    "JarStartOptions": String,
    "MountHost": String,
    "Replicas": Integer,
    "CustomHostAlias": String,
    "VpcId": String,
    "Tags": List,
    "SecurityGroupId": String,
    "Command": String,
    "EdasContainerVersion": String,
    "PackageUrl": String,
    "NamespaceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Timezone	String	No	Yes	The time zone in which you want to create the application.	Default value: Asia/Shanghai.
AppDescription	String	No	No	The description of the application.	The description can be up to 1,024 characters in length.
MountDesc	String	No	Yes	The description of the mount target.	None

Property	Type	Required	Editable	Description	Constraint
NasId	String	No	Yes	The ID of the Network Attached Storage (NAS) file system that you want to mount to the application.	The NAS file system must have an available mount target or a mount target on a vSwitch in the VPC in which the application is located. If you do not set this property but set the MountDesc property, a NAS file system is automatically purchased and mounted to the vSwitch in the VPC.
WarStartOptions	String	No	Yes	The option settings that are used to deploy a web application archive (WAR) package.	The default startup command to deploy the package is `java $JAVA_OPTS $CATALINA_OPTS -Options org.apache.catalina.startup.Bootstrap "$@" start` .
Liveness	String	No	Yes	The health check of the container. A container that fails this health check is restarted.	The health check can be performed only by sending commands in a container. Example: `{"exec":{"command":["sleep","5s"]},"initialDelaySeconds":10,"timeoutSeconds":11}` .
Memory	Integer	Yes	No	The memory capacity that is required for each application instance. Only instance types with fixed specifications are supported.	Set the value of this property based on the Cpu property. • If you set the value of the Cpu parameter to 500, set the value of this property to 1024. • Set the value to 2048 when Cpu is set to 500 or 1000. • Set the value to 4096 when Cpu is set to 1000 or 2000. • Set the value to 8192 when Cpu is set to 2000 or 4000. • Set the value to 16384 when Cpu is set to 4000 or 8000. • Set the value to 32768 when Cpu is set to 16000. • Set the value to 65536 when Cpu is set to 8000, 16000, or 32000. • Set the value to 131072 when Cpu is set to 32000. Unit: MB.
WebContainer	String	No	Yes	The version of the Tomcat container on which the deployment package of the application depends.	If you use an image to deploy the application, this property is not supported.
SlsConfigs	String	No	Yes	The log collection configurations.	None
Cpu	Integer	Yes	No	The CPU resources that are required for each application instance. Only instance types with fixed specifications are supported.	Valid values: • 500 • 1000 • 2000 • 4000 • 8000 • 16000 • 32000 Unit: millicores.

Property	Type	Required	Editable	Description	Constraint
Deploy	Boolean	No	No	Specifies whether the deployment immediately takes effect.	Default value: false. Valid values: • true: The deployment immediately takes effect. • false: The deployment does not immediately take effect.
Tags	List	No	Yes	The tags of the application.	You can specify up to 20 tags. For more information, see Tags syntax and Tags properties.
PackageVersion	String	No	Yes	The version of the deployment package.	If you set the PackageType property to War or FatJar, you must configure this property.
AppName	String	Yes	No	The name of the application.	The name can be up to 36 characters in length and can contain letters, digits, and hyphens (-). The name must start with a letter.
Jdk	String	No	Yes	The version of the Java development kit (JDK) on which the deployment package of the application depends.	If you use an image to deploy the application, this property is not supported.
JarStartArgs	String	No	Yes	The arguments that are used to deploy a Java Archive (JAR) package.	The default startup command to deploy the package is `$JAVA_HOME/bin/java $JarStartOptions -jar $CATALINA_OPTS "$package_path" $JarStartArgs`.
PreStop	String	No	Yes	The script that you want to run before the deployment is stopped.	Example: `{"exec":{"command":"cat","/etc/group"}}`.
Readiness	String	No	Yes	The readiness check of the container.	Example: `{"exec":{"command":["sleep","6s"]},"initialDelaySeconds":15,"timeoutSeconds":12}`. A container that fails this readiness check multiple times is restarted. Containers that fail health checks do not receive traffic from Server Load Balancer (SLB) instances.
PackageType	String	Yes	No	The type of the application deployment package.	Valid values: • FatJar • War • Image
CommandArgs	String	No	Yes	The arguments of the image startup command.	None
Envs	String	No	Yes	The environment variables and their corresponding values.	Specify the value in the `[{"name":"envtmp","value":"0"}]` format. • `name` specifies the name of the environment variable. • `value` specifies the value or reference of the environment variable.

Property	Type	Required	Editable	Description	Constraint
VSwitchId	String	No	No	The ID of the vSwitch to which the elastic network interface (ENI) belongs.	The vSwitch must be located in the specified VPC. The vSwitch is bound to a namespace in Enterprise Distributed Application Service (EDAS). If you do not set this property, the ID of the vSwitch that is bound to the namespace is used.
ImageUrl	String	No	Yes	The URL of the image.	This property is available only if you set the PackageType property to Image.
PostStart	String	No	Yes	The script that you want to run after the deployment is started.	Specify the value in the `{"exec":{"command":"cat","/etc/group"}}` format.
JarStartOptions	String	No	Yes	The option settings that are used to deploy a JAR package.	The default startup command to deploy the package is `$JAVA_HOME/bin/java $JarStartOptions -jar $CATALINA_OPTS "$package_path" $JarStartArgs` .
MountHost	String	No	Yes	The mount target of the NAS file system in the VPC.	None
Replicas	Integer	Yes	No	The number of application instances that you want to create.	None
CustomHostAlias	String	No	Yes	The custom alias of a host in the container.	Specify the value in the `[{"hostName":"samplehost","ip":"127.0.XX.XX"}]` format. • `hostName` specifies the domain name or hostname. • `ip` specifies the IP address.
VpcId	String	No	No	The ID of the VPC that corresponds to the EDAS namespace.	In SAE, a namespace can correspond to only one VPC. You cannot modify a VPC after you configure it. The namespace is bound to the SAE application when the application is first created within the namespace. Multiple namespaces can correspond to the same VPC. If you do not set this property, the ID of the VPC that is bound to the namespace is used.
SecurityGroupId	String	No	No	The ID of the security group.	None
Command	String	No	Yes	The command that is used to start the image.	The command must be an existing executable object in the container. Example: sleep. If you set this property, the original startup command of the image becomes invalid.
EdasContainerVersion	String	No	Yes	The version of EDAS Pandora.	None
PackageUrl	String	No	Yes	The URL of the deployment package.	This property is available only if you set the PackageType property to War or FatJar.
NamespaceId	String	Yes	No	The ID of the EDAS namespace.	The ID can contain only lowercase letters and hyphens (-). It must start with a lowercase letter.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- AppId: the ID of the application.
- ChangeOrderId: the ID of the release order that is used to query the task execution status.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Timezone": {
      "Type": "String",
      "Description": "Application time zone. Default Asia/Shanghai."
    },
    "AppDescription": {
      "Type": "String",
      "Description": "Application description. No more than 1024 characters.",
      "MaxLength": 1024
    },
    "MountDesc": {
      "Type": "String",
      "Description": "Mount Description"
    },
    "NasId": {
      "Type": "String",
      "Description": "Mount the NAS ID, you must be in the same region and cluster. It must be available to create a mount poin
t limit, or switch on its mount point already in the VPC. If you do not fill, and there mountDescs field, the default will auto
matically purchase a NAS and mount it onto the switch within the VPC."
    },
    "WarStartOptions": {
      "Type": "String",
      "Description": "War Start the application package option. Apply the default startup command: java $ JAVA_OPTS $ CATALINA_
OPTS -Options org.apache.catalina.startup.Bootstrap \"$ @\" start"
    },
    "Liveness": {
      "Type": "String",
      "Description": "Container health check, health check fails container will be killed and recovery. Currently only supports
mode command issued in the container. The columns: { \"exec\": { \"command\": [ \"sleep\", \"5s\"]}, \"initialDelaySeconds\": 1
0, \"timeoutSeconds\": 11}"
    },
    "Memory": {
      "Type": "Number",
      "Description": "Each instance of the required memory, in units of MB, can not be zero. Currently only supports fixed spec
ifications instance type.",
```

```
      "MinValue": 1
    },
    "WebContainer": {
      "Type": "String",
      "Description": "Tomcat deployment of the package depends on the version. Mirroring not supported."
    },
    "SlsConfigs": {
      "Type": "String",
      "Description": "Log collection configuration file"
    },
    "Cpu": {
      "Type": "Number",
      "Description": "Each instance of the CPU required, in units of milli core, can not be zero. Currently only supports fixed
specifications instance type.",
      "MinValue": 1
    },
    "Deploy": {
      "Type": "Boolean",
      "Description": "Whether deployed immediately take effect, the default is false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PackageVersion": {
      "Type": "String",
      "Description": "The version number of the deployed package, War FatJar type required. Please customize it meaning."
    },
    "AppName": {
      "Type": "String",
      "Description": "Application Name. Allowed numbers, letters and underlined combinations thereof. We must begin with the le
tters, the maximum length of 36 characters."
    },
    "Jdk": {
      "Type": "String",
      "Description": "Deployment of JDK version of the package depends on. Mirroring not supported."
    },
    "JarStartArgs": {
      "Type": "String",
      "Description": "Jar package startup application parameters. Apply the default startup command: $ JAVA_HOME / bin / java $
JarStartOptions -jar $ CATALINA_OPTS \"$ package_path\"\n$ JarStartArgs"
    },
    "PreStop": {
      "Type": "String",
      "Description": "Script is executed before stopping the format as: { \"exec\": { \"command\": \"cat\", \"/ etc / group\"}}
"
    },
    "Readiness": {
      "Type": "String",
      "Description": "Application launch status check, health check fails repeatedly container will be killed and restarted. Do
not pass health check of the vessel will not have to enter SLB traffic. For example: { \"exec\": { \"command\": [ \"sleep\", \"
6s\"]}, \"initialDelaySeconds\": 15, \"timeoutSeconds\": 12}"
    },
    "PackageType": {
      "Type": "String",
      "Description": "Application package type. Support FatJar, War, Image."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to application. Max support 20 tags to add during create application. Each tag with two pr
operties Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "CommandArgs": {
      "Type": "String",
      "Description": "Mirroring the start command parameters. Parameters required for the start-command. For example: [ \"1d\"]
"
    },
    "SecurityGroupId": {
      "Type": "String",
      "Description": "Security group ID."
    },
    "Envs": {
```

```
    "Envs": {
      "Type": "String",
      "Description": "Container environment variable parameters. For example: [{ \"name\": \"envtmp\", \"value\": \"0\"}]"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "Application examples where the elastic card virtual switch. The switch must be located above the VPC. The
same switch with EDAS namespace binding relationship. Do not fill was VSwitchId namespace binding."
    },
    "ImageUrl": {
      "Type": "String",
      "Description": "Mirroring address. Image only type of application can be configured to mirror address."
    },
    "PostStart": {
      "Type": "String",
      "Description": "Executing the script, such as after starting the format: { \"exec\": { \"command\": \"cat\", \"/ etc / gr
oup\"}}"
    },
    "JarStartOptions": {
      "Type": "String",
      "Description": "Jar start the application package option. Apply the default startup command: $ JAVA_HOME / bin / java $ J
arStartOptions -jar $ CATALINA_OPTS \"$ package_path\"\n$ JarStartArgs"
    },
    "MountHost": {
      "Type": "String",
      "Description": "nas mount point in the application of vpc."
    },
    "Replicas": {
      "Type": "Number",
      "Description": "The initial number of instances."
    },
    "CustomHostAlias": {
      "Type": "String",
      "Description": "Custom mapping host vessel. For example: [{ \"hostName\": \"samplehost\", \"ip\": \"127.0.0.1\"}]"
    },
    "VpcId": {
      "Type": "String",
      "Description": "EDAS namespace corresponding VPC. In Serverless in a corresponding one of the VPC namespace only, and can
not be modified. Serverless first created in the application name space will form a binding relationship. You may correspond to
a plurality of namespaces VPC. Do not fill was VpcId namespace binding."
    },
    "Command": {
      "Type": "String",
      "Description": "Mirroring the start command. The command object in memory executable container must be. For example: slee
p. This command will cause the image to set the original startup command failure."
    },
    "EdasContainerVersion": {
      "Type": "String",
      "Description": "EDAS pandora runtime environment used by the application."
    },
    "PackageUrl": {
      "Type": "String",
      "Description": "Deployment packages address. Only FatJar War or the type of application can be configured to deploy packe
t address."
    },
    "NamespaceId": {
      "Type": "String",
      "Description": "EDAS namespace corresponding to ID. Canada supports only the name of the scribe lowercase namespace must
begin with a letter.\nNamespace can interface to obtain from DescribeNamespaceList."
    }
  },
  "Resources": {
    "Application": {
      "Type": "ALIYUN::SAE::Application",
      "Properties": {
        "Timezone": {
          "Ref": "Timezone"
        },
        "AppDescription": {
          "Ref": "AppDescription"
        },
        "MountDesc": {
          "Ref": "MountDesc"
        },
        "NasId": {
```

```
        "NasId": {
          "Ref": "NasId"
        },
        "WarStartOptions": {
          "Ref": "WarStartOptions"
        },
        "Liveness": {
          "Ref": "Liveness"
        },
        "Memory": {
          "Ref": "Memory"
        },
        "WebContainer": {
          "Ref": "WebContainer"
        },
        "SlsConfigs": {
          "Ref": "SlsConfigs"
        },
        "Cpu": {
          "Ref": "Cpu"
        },
        "Deploy": {
          "Ref": "Deploy"
        },
        "PackageVersion": {
          "Ref": "PackageVersion"
        },
        "AppName": {
          "Ref": "AppName"
        },
        "Jdk": {
          "Ref": "Jdk"
        },
        "JarStartArgs": {
          "Ref": "JarStartArgs"
        },
        "PreStop": {
          "Ref": "PreStop"
        },
        "Readiness": {
          "Ref": "Readiness"
        },
        "PackageType": {
          "Ref": "PackageType"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "CommandArgs": {
          "Ref": "CommandArgs"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "Envs": {
          "Ref": "Envs"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "ImageUrl": {
          "Ref": "ImageUrl"
        },
        "PostStart": {
          "Ref": "PostStart"
        },
        "JarStartOptions": {
          "Ref": "JarStartOptions"
        },
        "MountHost": {
          "Ref": "MountHost"
        },
        "Replicas": {
          "Ref": "Replicas"
        },
```

```
        "CustomHostAlias": {
          "Ref": "CustomHostAlias"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Command": {
          "Ref": "Command"
        },
        "EdasContainerVersion": {
          "Ref": "EdasContainerVersion"
        },
        "PackageUrl": {
          "Ref": "PackageUrl"
        },
        "NamespaceId": {
          "Ref": "NamespaceId"
        }
      }
    }
  },
  "Outputs": {
    "AppId": {
      "Description": "Creating successful application ID.",
      "Value": {
        "Fn::GetAtt": [
          "Application",
          "AppId"
        ]
      }
    },
    "ChangeOrderId": {
      "Description": "Return to release a single ID, used to query task execution status.",
      "Value": {
        "Fn::GetAtt": [
          "Application",
          "ChangeOrderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Timezone:
    Type: String
    Description: Application time zone. Default Asia/Shanghai.
  AppDescription:
    Type: String
    Description: Application description. No more than 1024 characters.
    MaxLength: 1024
  MountDesc:
    Type: String
    Description: Mount Description
  NasId:
    Type: String
    Description: >-
      Mount the NAS ID, you must be in the same region and cluster. It must be
      available to create a mount point limit, or switch on its mount point
      already in the VPC. If you do not fill, and there mountDescs field, the
      default will automatically purchase a NAS and mount it onto the switch
      within the VPC.
  WarStartOptions:
    Type: String
    Description: >-
      War Start the application package option. Apply the default startup
      command: java $ JAVA_OPTS $ CATALINA_OPTS -Options
      org.apache.catalina.startup.Bootstrap "$ @" start
  Liveness:
    Type: String
```

```
    Description: >-
      Container health check, health check fails container will be killed and
      recovery. Currently only supports mode command issued in the container.
      The columns: { "exec": { "command": [ "sleep", "5s"]},
      "initialDelaySeconds": 10, "timeoutSeconds": 11}
  Memory:
    Type: Number
    Description: >-
      Each instance of the required memory, in units of MB, can not be zero.
      Currently only supports fixed specifications instance type.
    MinValue: 1
  WebContainer:
    Type: String
    Description: >-
      Tomcat deployment of the package depends on the version. Mirroring not
      supported.
  SlsConfigs:
    Type: String
    Description: Log collection configuration file
  Cpu:
    Type: Number
    Description: >-
      Each instance of the CPU required, in units of milli core, can not be
      zero. Currently only supports fixed specifications instance type.
    MinValue: 1
  Deploy:
    Type: Boolean
    Description: 'Whether deployed immediately take effect, the default is false.'
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  PackageVersion:
    Type: String
    Description: >-
      The version number of the deployed package, War FatJar type required.
      Please customize it meaning.
  AppName:
    Type: String
    Description: >-
      Application Name. Allowed numbers, letters and underlined combinations
      thereof. We must begin with the letters, the maximum length of 36
      characters.
  Jdk:
    Type: String
    Description: >-
      Deployment of JDK version of the package depends on. Mirroring not
      supported.
  JarStartArgs:
    Type: String
    Description: >-
      Jar package startup application parameters. Apply the default startup
      command: $ JAVA_HOME / bin / java $ JarStartOptions -jar $ CATALINA_OPTS
      "$ package_path"
      $ JarStartArgs
  PreStop:
    Type: String
    Description: >-
      Script is executed before stopping the format as: { "exec": { "command":
      "cat", "/ etc / group"}}
  Readiness:
    Type: String
    Description: >-
      Application launch status check, health check fails repeatedly container
      will be killed and restarted. Do not pass health check of the vessel will
      not have to enter SLB traffic. For example: { "exec": { "command": [
      "sleep", "6s"]}, "initialDelaySeconds": 15, "timeoutSeconds": 12}
  PackageType:
    Type: String
    Description: 'Application package type. Support FatJar, War, Image.'
  Tags:
    Type: Json
    Description: >-
      Tags to attach to application. May support 20 tags to add during create
```

```
    Tags to attach to application. Max support 20 tags to add during create
    application. Each tag with two properties Key and Value, and Key is
    required.
  MaxLength: 20
CommandArgs:
  Type: String
  Description: >-
    Mirroring the start command parameters. Parameters required for the
    start-command. For example: [ "ld"]
SecurityGroupId:
  Type: String
  Description: Security group ID.
Envs:
  Type: String
  Description: >-
    Container environment variable parameters. For example: [{ "name":
    "envtmp", "value": "0"}]
VSwitchId:
  Type: String
  Description: >-
    Application examples where the elastic card virtual switch. The switch
    must be located above the VPC. The same switch with EDAS namespace binding
    relationship. Do not fill was VSwitchId namespace binding.
ImageUrl:
  Type: String
  Description: >-
    Mirroring address. Image only type of application can be configured to
    mirror address.
PostStart:
  Type: String
  Description: >-
    Executing the script, such as after starting the format: { "exec": {
    "command": "cat", "/ etc / group"}}
JarStartOptions:
  Type: String
  Description: >-
    Jar start the application package option. Apply the default startup
    command: $ JAVA_HOME / bin / java $ JarStartOptions -jar $ CATALINA_OPTS
    "$ package_path"
    $ JarStartArgs
MountHost:
  Type: String
  Description: nas mount point in the application of vpc.
Replicas:
  Type: Number
  Description: The initial number of instances.
CustomHostAlias:
  Type: String
  Description: >-
    Custom mapping host vessel. For example: [{ "hostName": "samplehost",
    "ip": "127.0.0.1"}]
VpcId:
  Type: String
  Description: >-
    EDAS namespace corresponding VPC. In Serverless in a corresponding one of
    the VPC namespace only, and can not be modified. Serverless first created
    in the application name space will form a binding relationship. You may
    correspond to a plurality of namespaces VPC. Do not fill was VpcId
    namespace binding.
Command:
  Type: String
  Description: >-
    Mirroring the start command. The command object in memory executable
    container must be. For example: sleep. This command will cause the image
    to set the original startup command failure.
EdasContainerVersion:
  Type: String
  Description: EDAS pandora runtime environment used by the application.
PackageUrl:
  Type: String
  Description: >-
    Deployment packages address. Only FatJar War or the type of application
    can be configured to deploy packet address.
NamespaceId:
  Type: String
```

```
    Type: String
    Description: >-
      EDAS namespace corresponding to ID. Canada supports only the name of the
      scribe lowercase namespace must begin with a letter.
      Namespace can interface to obtain from DescribeNamespaceList.
Resources:
  Application:
    Type: 'ALIYUN::SAE::Application'
    Properties:
      Timezone:
        Ref: Timezone
      AppDescription:
        Ref: AppDescription
      MountDesc:
        Ref: MountDesc
      NasId:
        Ref: NasId
      WarStartOptions:
        Ref: WarStartOptions
      Liveness:
        Ref: Liveness
      Memory:
        Ref: Memory
      WebContainer:
        Ref: WebContainer
      SlsConfigs:
        Ref: SlsConfigs
      Cpu:
        Ref: Cpu
      Deploy:
        Ref: Deploy
      PackageVersion:
        Ref: PackageVersion
      AppName:
        Ref: AppName
      Jdk:
        Ref: Jdk
      JarStartArgs:
        Ref: JarStartArgs
      PreStop:
        Ref: PreStop
      Readiness:
        Ref: Readiness
      PackageType:
        Ref: PackageType
      Tags:
        Ref: Tags
      CommandArgs:
        Ref: CommandArgs
      SecurityGroupId:
        Ref: SecurityGroupId
      Envs:
        Ref: Envs
      VSwitchId:
        Ref: VSwitchId
      ImageUrl:
        Ref: ImageUrl
      PostStart:
        Ref: PostStart
      JarStartOptions:
        Ref: JarStartOptions
      MountHost:
        Ref: MountHost
      Replicas:
        Ref: Replicas
      CustomHostAlias:
        Ref: CustomHostAlias
      VpcId:
        Ref: VpcId
      Command:
        Ref: Command
      EdasContainerVersion:
        Ref: EdasContainerVersion
      PackageUrl:
        Ref: PackageUrl
```

```
      NamespaceId:
        Ref: NamespaceId
Outputs:
  AppId:
    Description: Creating successful application ID.
    Value:
      'Fn::GetAtt':
        - Application
        - AppId
  ChangeOrderId:
    Description: 'Return to release a single ID, used to query task execution status.'
    Value:
      'Fn::GetAtt':
        - Application
        - ChangeOrderId
```

To view more examples, visit SAE.json and SAE.yml. In the examples, the ALIYUN::ACM::Namespace, ALIYUN::SAE::Application, and ALIYUN::SAE::SlbBinding resource types are used.

62.2. ALIYUN::SAE::Namespace

ALIYUN::SAE::Namespace is used to create a Namespace.

Syntax

```
{
  "Type": "ALIYUN::SAE::Namespace",
  "Properties": {
    "NamespaceName": String,
    "NamespaceId": String,
    "NamespaceDescription": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
NamespaceName	String	Yes	Yes	The name of the namespace.	None
NamespaceId	String	Yes	No	The ID of the namespace. For example: cn-hangzhou:test.	Valid values: `RegionId:LogicalId`. LogicalId can contain lowercase letters or digits.
NamespaceDescription	String	No	Yes	The description of the alarm task.	None

Response parameters

Fn::GetAtt

NamespaceId: the ID of the namespace.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "NamespaceName": {
      "Type": "String",
      "Description": "Namespace name"
    },
    "NamespaceId": {
      "Type": "String",
      "Description": "Namespace ID. Format: \"regionId:logicalId\" or \"logicalId\""
    },
    "NamespaceDescription": {
      "Type": "String",
      "Description": "Namespace description"
    }
  },
  "Resources": {
    "Namespace": {
      "Type": "ALIYUN::SAE::Namespace",
      "Properties": {
        "NamespaceName": {
          "Ref": "NamespaceName"
        },
        "NamespaceId": {
          "Ref": "NamespaceId"
        },
        "NamespaceDescription": {
          "Ref": "NamespaceDescription"
        }
      }
    }
  },
  "Outputs": {
    "NamespaceId": {
      "Description": "Namespace ID",
      "Value": {
        "Fn::GetAtt": [
          "Namespace",
          "NamespaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  NamespaceName:
    Type: String
    Description: Namespace name
  NamespaceId:
    Type: String
    Description: 'Namespace ID. Format: "regionId:logicalId" or "logicalId"'
  NamespaceDescription:
    Type: String
    Description: Namespace description
Resources:
  Namespace:
    Type: 'ALIYUN::SAE::Namespace'
    Properties:
      NamespaceName:
        Ref: NamespaceName
      NamespaceId:
        Ref: NamespaceId
      NamespaceDescription:
        Ref: NamespaceDescription
Outputs:
  NamespaceId:
    Description: Namespace ID
    Value:
      'Fn::GetAtt':
        -Namespace
        -NamespaceId
```

62.3. ALIYUN::SAE::SlbBinding

ALIYUN::SAE::SlbBinding is used to bind an SLB instance to an application.

Syntax

```
{
  "Type": "ALIYUN::SAE::SlbBinding",
  "Properties": {
    "InternetSlbId": String,
    "AppId": String,
    "Intranet": String,
    "IntranetSlbId": String,
    "Internet": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InternetSlbId	String	No	No	The ID of the Internet SLB instance.	Only non-shared instances are supported.
AppId	String	Yes	No	The ID of the deployed application.	None
Intranet	String	No	No	Bind the private network SLB instance. For example, [{"port":80,"targetPort":8080,"protocol":"TCP"}] indicates that port 8080 of the container is used to expose the service through port 80 of the SLB. The protocol is TCP.	None

Property	Type	Required	Editable	Description	Constraint
IntranetSlbId	String	No	No	The ID of the intranet SLB instance.	Only non-shared instances are supported.
Internet	String	No	No	Bind an Internet SLB instance. For example, [{"port":80,"targetPort":8080,"protocol":"TCP"}] indicates that port 8080 of the container is used to expose the service through port 80 of the SLB. The protocol is TCP.	None

Response parameters

Fn::GetAtt

- AppId: the ID of the application.
- ChangeOrderId: the ID of the release Form, which is used to query the task execution status.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InternetSlbId": {
      "Type": "String",
      "Description": "Use SLB purchased specified, currently only supports non-shared examples"
    },
    "AppId": {
      "Type": "String",
      "Description": "Successful application deployment target ID"
    },
    "Intranet": {
      "Type": "String",
      "Description": "Bind private SLB. For example: [{ \"port\": 80, \"targetPort\": 8080, \"protocol\": \"TCP\"}], shows a co
ntainer port 8080 through port 80 slb exposed service, the protocol is TCP, the blank is ignored."
    },
    "IntranetSlbId": {
      "Type": "String",
      "Description": "Use SLB purchased specified, currently only supports non-shared examples"
    },
    "Internet": {
      "Type": "String",
      "Description": "Binding public SLB. For example: [{ \"port\": 80, \"targetPort\": 8080, \"protocol\": \"TCP\"}], shows a
container port 8080 through port 80 slb exposed service, the protocol is TCP, the blank is ignored."
    }
  },
  "Resources": {
    "SlbBinding": {
      "Type": "ALIYUN::SAE::SlbBinding",
      "Properties": {
        "InternetSlbId": {
          "Ref": "InternetSlbId"
        },
        "AppId": {
          "Ref": "AppId"
        },
        "Intranet": {
          "Ref": "Intranet"
        },
        "IntranetSlbId": {
          "Ref": "IntranetSlbId"
        },
        "Internet": {
          "Ref": "Internet"
        }
      }
    }
  },
  "Outputs": {
    "AppId": {
      "Description": "Successful application deployment target ID",
      "Value": {
        "Fn::GetAtt": [
          "SlbBinding",
          "AppId"
        ]
      }
    },
    "ChangeOrderId": {
      "Description": "Return to release a single ID, used to query task execution status.",
      "Value": {
        "Fn::GetAtt": [
          "SlbBinding",
          "ChangeOrderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InternetSlbId:
    Type: String
    Description: 'Use SLB purchased specified, currently only supports non-shared examples'
  AppId:
    Type: String
    Description: Successful application deployment target ID
  Intranet:
    Type: String
    Description: >-
      Bind private SLB. For example: [{ "port": 80, "targetPort": 8080,
      "protocol": "TCP"}], shows a container port 8080 through port 80 slb
      exposed service, the protocol is TCP, the blank is ignored.
  IntranetSlbId:
    Type: String
    Description: 'Use SLB purchased specified, currently only supports non-shared examples'
  Internet:
    Type: String
    Description: >-
      Binding public SLB. For example: [{ "port": 80, "targetPort": 8080,
      "protocol": "TCP"}], shows a container port 8080 through port 80 slb
      exposed service, the protocol is TCP, the blank is ignored.
Resources:
  SlbBinding:
    Type: 'ALIYUN::SAE::SlbBinding'
    Properties:
      InternetSlbId:
        Ref: InternetSlbId
      AppId:
        Ref: AppId
      Intranet:
        Ref: Intranet
      IntranetSlbId:
        Ref: IntranetSlbId
      Internet:
        Ref: Internet
Outputs:
  AppId:
    Description: Successful application deployment target ID
    Value:
      'Fn::GetAtt':
        -SlbBinding
        -AppId
  ChangeOrderId:
    Description: 'Return to release a single ID, used to query task execution status.'
    Value:
      'Fn::GetAtt':
        -SlbBinding
        -ChangeOrderId
```

63.SAG

63.1. ALIYUN::SAG::CloudConnectNetwork

ALIYUN::SAG::CloudConnectNetwork is used to create a Cloud Connect Network (CCN) instance. CNN is a device access matrix composed of Alibaba Cloud distributed Smart Access Gateways (SAGs). You can add multiple SAGs to a CCN instance and then attach the CCN instance to a Cloud Enterprise Network (CEN) instance. In this way, you can connect your local branches to Alibaba Cloud.

Syntax

```
{
  "Type": "ALIYUN::SAG::CloudConnectNetwork",
  "Properties": {
    "Description": String,
    "IsDefault": Boolean,
    "Name": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the CCN instance.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
IsDefault	Boolean	No	No	Indicates whether the CCN instance is created by the system.	Default value: false. Valid values: • true • false
Name	String	No	Yes	The name of the CCN instance.	The name must be 2 to 128 characters in length and can contain letters, digits, colons (:), underscores (_), and hyphens (-). It must start with a letter but cannot start with `http://` or `https://`. It can contain letters, digits, periods (.), underscores (_), and hyphens (-).
Tags	List	No	Yes	The tags of the instance.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

CcnId: the ID of the CCN instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "IsDefault": {
      "Type": "Boolean",
      "Description": "Whether is created by system",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the CCN instance.\nThe description can contain 2 to 256 characters. The description ca
nnot start with http:// or https://."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the CCN instance.\nThe name can contain 2 to 128 characters including a-z, A-Z, 0-9, chinese,
underlines, and hyphens. The name must start with an English letter, but cannot start with http:// or https://."
    }
  },
  "Resources": {
    "CloudConnectNetwork": {
      "Type": "ALIYUN::SAG::CloudConnectNetwork",
      "Properties": {
        "IsDefault": {
          "Ref": "IsDefault"
        },
        "Description": {
          "Ref": "Description"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "CcnId": {
      "Description": "The ID of the CCN instance.",
      "Value": {
        "Fn::GetAtt": [
          "CloudConnectNetwork",
          "CcnId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: 'The description of the CCN instance.
      The description can contain 2 to 256 characters. The description cannot start
      with http:// or https://.'
    Type: String
  IsDefault:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: Whether is created by system
    Type: Boolean
  Name:
    Description: 'The name of the CCN instance.
      The name can contain 2 to 128 characters including a-z, A-Z, 0-9, chinese, underlines,
      and hyphens. The name must start with an English letter, but cannot start with
      http:// or https://.'
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  CloudConnectNetwork:
    Properties:
      Description:
        Ref: Description
      IsDefault:
        Ref: IsDefault
      Name:
        Ref: Name
      Tags:
        Ref: Tags
    Type: ALIYUN::SAG::CloudConnectNetwork
Outputs:
  CcnId:
    Description: The ID of the CCN instance.
    Value:
      Fn::GetAtt:
      - CloudConnectNetwork
      - CcnId
```

For more examples, visit Cen.json and Cen.yml. The ALIYUN::CEN::CenInstance, ALIYUN::CEN::CenBandwidthPackage, ALIYUN::CEN::CenBandwidthPackageAssociation, ALIYUN::CEN::CenInstanceAttachment, ALIYUN::CEN::CenBandwidthLimit, ALIYUN::CEN::RouteEntry, ALIYUN::SAG::CloudConnectNetwork, ALIYUN::SAG::GrantCcnToCen, and ALIYUN::VPC::GrantInstanceToCen resource types are involved.

63.2. ALIYUN::SAG::ACL

ALIYUN::SAG::ACL is used to create an access control list (ACL).

Syntax

```
{
  "Type": "ALIYUN::SAG::ACL",
  "Properties": {
    "Name": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity

Name	Type	Required	Editable	Description	Validity
Name	String	Yes	Yes	The name of the ACL to be created.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter but cannot start with http:// or https://.

Response parameters

Fn::GetAtt

AclId: the ID of the ACL.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ACL": {
      "Type": "ALIYUN::SAG::ACL",
      "Properties": {
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Parameters": {
    "Name": {
      "Type": "String",
      "Description": "ACL name.\nThe length is 2-128 characters. It must start with a letter. It can contain digits, periods (.
), underscores (_) and hyphens (-), but cannot start with http:// or https://."
    }
  },
  "Outputs": {
    "AclId": {
      "Description": "ACL ID.",
      "Value": {
        "Fn::GetAtt": [
          "ACL",
          "AclId"
        ]
      }
    }
  }
}
```

63.3. ALIYUN::SAG::ACLAssociation

ALIYUN::SAG::ACLAssociation is used to associate an access control list (ACL) with a Smart Access Gateway (SAG) instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::ACLAssociation",
  "Properties": {
    "SmartAGId": String,
    "AclId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SmartAGId	String	Yes	No	The ID of the SAG instance to be associated with the ACL.	None
AclId	String	Yes	No	The ID of the ACL.	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
    "ROSTemplateFormatVersion": "2015-09-01",
    "Parameters": {
    "AclId": {
      "Type": "String",
      "Description": "Access control ID."
    },
    "SmartAGId": {
      "Type": "String",
      "Description": "An intelligent gateway instance that needs to bind access control."
    }
  },
  "Resources": {
    "ACLAssociation": {
      "Type": "ALIYUN::SAG::ACLAssociation",
      "Properties": {
        "AclId": {
          "Ref": "AclId"
        },
        "SmartAGId": {
          "Ref": "SmartAGId"
        }
      }
    }
  },
  "Outputs": {}
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AclId:
    Type: String
    Description: Access control ID.
  SmartAGId:
    Type: String
    Description: An intelligent gateway instance that needs to bind access control.
Resources:
  ACLAssociation:
    Type: 'ALIYUN::SAG::ACLAssociation'
    Properties:
      AclId:
        Ref: AclId
      SmartAGId:
        Ref: SmartAGId
Outputs: {}
```

63.4. ALIYUN::SAG::ACLRule

ALIYUN::SAG::ACLRule is used to add an access control list (ACL) rule.

Syntax

```
{
  "Type": "ALIYUN::SAG::ACLRule",
  "Properties": {
    "Direction": String,
    "Description": String,
    "AclId": String,
    "SourceCidr": String,
    "DestCidr": String,
    "Priority": Integer,
    "DestPortRange": String,
    "Policy": String,
    "IpProtocol": String,
    "SourcePortRange": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Direction	String	Yes	Yes	The direction of traffic to match in the ACL rule.	Valid values: in and out.
Description	String	No	Yes	The description of the ACL rule.	The description must be 1 to 512 characters in length.
AclId	String	Yes	No	The ID of the ACL.	None
SourceCidr	String	Yes	Yes	The source IP address range specified in the ACL rule. CIDR blocks and IPv4 addresses are supported.	None
DestCidr	String	Yes	Yes	The destination IP address range specified in the ACL rule. CIDR blocks and IPv4 addresses are supported.	None
Priority	Integer	No	Yes	The priority of the ACL rule.	Valid values: 1 to 100. Default value: 1.
DestPortRange	String	Yes	Yes	The destination port range of the transport layer.	None
Policy	String	Yes	Yes	The access control policy.	Valid values: accept and drop.
IpProtocol	String	Yes	Yes	The transport layer protocol. The parameter value is not case-sensitive.	None
SourcePortRange	String	Yes	Yes	The source port range of the transport layer.	None

Response parameters

Fn::GetAtt

AcrId: the ID of the ACL rule.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
```

```
  "Resources": {
    "ACLRule": {
      "Type": "ALIYUN::SAG::ACLRule",
      "Properties": {
        "Direction": {
          "Ref": "Direction"
        },
        "Description": {
          "Ref": "Description"
        },
        "AclId": {
          "Ref": "AclId"
        },
        "SourceCidr": {
          "Ref": "SourceCidr"
        },
        "DestCidr": {
          "Ref": "DestCidr"
        },
        "Priority": {
          "Ref": "Priority"
        },
        "DestPortRange": {
          "Ref": "DestPortRange"
        },
        "Policy": {
          "Ref": "Policy"
        },
        "IpProtocol": {
          "Ref": "IpProtocol"
        },
        "SourcePortRange": {
          "Ref": "SourcePortRange"
        }
      }
    }
  },
  "Parameters": {
    "Direction": {
      "Type": "String",
      "Description": "Regular direction.\nValue: in|out",
      "AllowedValues": [
        "in",
        "out"
      ]
    },
    "Description": {
      "MinLength": 1,
      "Type": "String",
      "Description": "Rule description information, ranging from 1 to 512 characters.",
      "MaxLength": 512
    },
    "AclId": {
      "Type": "String",
      "Description": "Access control ID."
    },
    "SourceCidr": {
      "Type": "String",
      "Description": "Source address, CIDR format and IP address range in IPv4 format."
    },
    "DestCidr": {
      "Type": "String",
      "Description": "Destination address, CIDR format and IP address range in IPv4 format."
    },
    "Priority": {
      "Default": 1,
      "Type": "Number",
      "Description": "Priority, ranging from 1 to 100.\nDefault: 1",
      "MaxValue": 100,
      "MinValue": 1
    },
    "DestPortRange": {
      "Type": "String",
      "Description": "Destination port range, 80/80."
    }
```

```
    },
    "Policy": {
      "Type": "String",
      "Description": "Access: accept|drop",
      "AllowedValues": [
        "accept",
        "drop"
      ]
    },
    "IpProtocol": {
      "Type": "String",
      "Description": "Protocol, not case sensitive."
    },
    "SourcePortRange": {
      "Type": "String",
      "Description": "Source port range, 80/80."
    }
  },
  "Outputs": {
    "AcrId": {
      "Description": "Access control rule ID.",
      "Value": {
        "Fn::GetAtt": [
          "ACLRule",
          "AcrId"
        ]
      }
    }
  }
}
```

63.5. ALIYUN::SAG::GrantCcnToCen

ALIYUN::SAG::GrantCcnToCen is used to grant permissions on a Cloud Connect Network (CCN) instance to a Cloud Enterprise Network (CEN) instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::GrantCcnToCen",
  "Properties": {
    "CenInstanceId": String,
    "CenUid": String,
    "CcnInstanceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
CenInstanceId	String	Yes	No	The ID of the CEN instance.	None.
CenUid	String	Yes	No	The ID of the account to which the CEN instance belongs.	None.
CcnInstanceId	String	Yes	No	The ID of the CCN instance.	None.

Response parameters

Fn::GetAtt

- CenInstanceId: the ID of the CEN instance.
- CcnInstanceId: the ID of the CCN instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "GrantCcnToCen": {
      "Type": "ALIYUN::SAG::GrantCcnToCen",
      "Properties": {
        "CenInstanceId": {
          "Ref": "CenInstanceId"
        },
        "CenUid": {
          "Ref": "CenUid"
        },
        "CcnInstanceId": {
          "Ref": "CcnInstanceId"
        }
      }
    }
  },
  "Parameters": {
    "CenInstanceId": {
      "Type": "String",
      "Description": "The ID of the CEN instance."
    },
    "CenUid": {
      "Type": "String",
      "Description": "The ID of the account to which the CEN instance belongs."
    },
    "CcnInstanceId": {
      "Type": "String",
      "Description": "The ID of the CCN instance."
    }
  },
  "Outputs": {
    "CenInstanceId": {
      "Description": "The ID of the CEN instance.",
      "Value": {
        "Fn::GetAtt": [
          "GrantCcnToCen",
          "CenInstanceId"
        ]
      }
    },
    "CcnInstanceId": {
      "Description": "The ID of the CCN instance.",
      "Value": {
        "Fn::GetAtt": [
          "GrantCcnToCen",
          "CcnInstanceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  GrantCcnToCen:
    Type: ALIYUN::SAG::GrantCcnToCen
    Properties:
      CenInstanceId:
        Ref: CenInstanceId
      CenUid:
        Ref: CenUid
      CcnInstanceId:
        Ref: CcnInstanceId
Parameters:
  CenInstanceId:
    Type: String
    Description: The ID of the CEN instance.
  CenUid:
    Type: String
    Description: The ID of the account to which the CEN instance belongs.
  CcnInstanceId:
    Type: String
    Description: The ID of the CCN instance.
Outputs:
  CenInstanceId:
    Description: The ID of the CEN instance.
    Value:
      Fn::GetAtt:
      - GrantCcnToCen
      - CenInstanceId
  CcnInstanceId:
    Description: The ID of the CCN instance.
    Value:
      Fn::GetAtt:
      - GrantCcnToCen
      - CcnInstanceId
```

63.6. ALIYUN::SAG::Qos

ALIYUN::SAG::QoS is used to create a quality of service (QoS) policy for a Smart Access Gateway (SAG) instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::Qos",
  "Properties": {
    "QosName": String,
    "QosDescription": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
QosName	String	Yes	Yes	The name of the QoS policy.	The name must be 2 to 100 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The name must start with a letter.
QosDescription	String	No	Yes	The description of the QoS policy.	The description must be 1 to 512 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The description must start with a letter.

Return values

Fn::GetAtt

QosId: the ID of the QoS policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "QosName": {
      "Type": "String",
      "Description": "The name of the QoS policy.\nThe name must be 2 to 100 characters in length and can contain letters, digi
ts, periods\n(.), underscores (_), and hyphens (-). It must start with a letter."
    },
    "QosDescription": {
      "Type": "String",
      "Description": "The description of the QoS policy.\nThe description must be 1 to 512 characters in length and can contain
letters, digits,\nunderscores (_), and hyphens (-). It must start with a letter."
    }
  },
  "Resources": {
    "Qos": {
      "Type": "ALIYUN::SAG::Qos",
      "Properties": {
        "QosName": {
          "Ref": "QosName"
        },
        "QosDescription": {
          "Ref": "QosDescription"
        }
      }
    }
  },
  "Outputs": {
    "QosId": {
      "Description": "The ID of the QoS policy.",
      "Value": {
        "Fn::GetAtt": [
          "Qos",
          "QosId"
        ]
      }
    }
  }
}
```

63.7. ALIYUN::SAG::QosAssociation

ALIYUN::SAG::QosAssociation is used to associate a quality of service (QoS) policy with a Smart Access Gateway (SAG) instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::QosAssociation",
  "Properties": {
    "QosId": String,
    "SmartAGId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
QosId	String	Yes	No	The ID of the QoS policy.	For more information about QoS policies, see What is a QoS policy?.
SmartAGId	String	Yes	No	The SAG instance with which you want to associate the QoS policy.	None.

Return values

Fn::GetAtt

- QosId: the ID of the QoS policy.
- SmartAGId: the SAG instance that is associated with the QoS policy.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "QosId": {
      "Type": "String",
      "Description": "The instance ID of the QoS policy."
    },
    "SmartAGId": {
      "Type": "String",
      "Description": "The ID of the SAG instance to which the QoS policy is to be applied."
    }
  },
  "Resources": {
    "QosAssociation": {
      "Type": "ALIYUN::SAG::QosAssociation",
      "Properties": {
        "QosId": {
          "Ref": "QosId"
        },
        "SmartAGId": {
          "Ref": "SmartAGId"
        }
      }
    }
  },
  "Outputs": {
    "QosId": {
      "Description": "The ID of the QoS policy.",
      "Value": {
        "Fn::GetAtt": [
          "QosAssociation",
          "QosId"
        ]
      }
    },
    "SmartAGId": {
      "Description": "The ID of the SAG instance to which the QoS policy is to be applied.",
      "Value": {
        "Fn::GetAtt": [
          "QosAssociation",
          "SmartAGId"
        ]
      }
    }
  }
}
```

63.8. ALIYUN::SAG::QosCar

ALIYUN::SAG::QosCar is used to create a traffic throttling rule for a quality of service (QoS) policy.

Syntax

```
{
  "Type": "ALIYUN::SAG::QosCar",
  "Properties": {
    "MinBandwidthAbs": Integer,
    "Description": String,
    "MaxBandwidthPercent": Integer,
    "Priority": Integer,
    "MaxBandwidthAbs": Integer,
    "QosId": String,
    "PercentSourceType": String,
    "MinBandwidthPercent": Integer,
    "LimitType": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
MinBandwidthAbs	Integer	No	Yes	The minimum bandwidth.	This property is required when you set the LimitType property to Absolute.
Description	String	No	Yes	The description of the traffic throttling rule.	None.
MaxBandwidthPercent	Integer	No	Yes	The maximum bandwidth percentage.	This property is required when you set the LimitType property to Percent.
Priority	Integer	Yes	Yes	The priority of the traffic throttling rule.	Valid values: 1 to 7. A smaller value indicates a higher priority.
MaxBandwidthAbs	Integer	No	Yes	The maximum bandwidth.	This property is required when you set the LimitType property to Absolute.
QosId	String	Yes	No	The ID of the QoS policy.	For more information about QoS policies, see What is a QoS policy?.
PercentSourceType	String	No	Yes	The bandwidth type when traffic is throttled based on a specific range of bandwidth percentage.	Valid values: • CcnBandwidth: Cloud Connect Network (CCN) bandwidth • InternetUpBandwidth: Internet upstream bandwidth
MinBandwidthPercent	Integer	No	Yes	The minimum bandwidth percentage.	This property is required when you set the LimitType property to Percent.
LimitType	String	Yes	Yes	The type of the traffic throttling rule.	Valid values: • Absolute: throttles traffic based on a specific range of bandwidth. • Percent: throttles traffic based on a specific range of bandwidth percentage.
Name	String	No	Yes	The name of the traffic throttling rule.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The name must start with a letter.

Return values

Fn::GetAtt

QosCarId: the ID of the traffic throttling rule for the QoS policy.

Examples

JSON format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "MinBandwidthAbs": {
      "Type": "Number",
      "Description": "The minimum bandwidth. This parameter is required when LimitType is set to Absolute."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the traffic throttling policy."
    },
    "Priority": {
      "Type": "Number",
      "Description": "The priority of the traffic throttling policy. A smaller value represents a higher\npriority. If policies
are assigned the same priority, the one applied the earliest\nprevails. Valid values: 1 to 7.",
      "MinValue": 1,
      "MaxValue": 7
    },
    "MaxBandwidthPercent": {
      "Type": "Number",
      "Description": "The maximum percentage that is based on the maximum upstream bandwidth of the SAG\ninstance.\nThis parame
ter is required when LimitType is set to Percent."
    },
    "MaxBandwidthAbs": {
      "Type": "Number",
      "Description": "The maximum bandwidth. This parameter is required when LimitType is set to Absolute."
    },
    "QosId": {
      "Type": "String",
      "Description": "The ID of the QoS policy."
    },
    "PercentSourceType": {
      "Type": "String",
      "Description": "If the policy throttles traffic based on a specified bandwidth percentage, the following\noptions are ava
ilable:\nCcnBandwidth: Cloud Enterprise Network (CCN) bandwidth.\nInternetUpBandwidth: Internet upstream bandwidth.",
      "AllowedValues": [
        "CcnBandwidth",
        "InternetUpBandwidth"
      ]
    },
    "MinBandwidthPercent": {
      "Type": "Number",
      "Description": "The minimum percentage that is based on the maximum upstream bandwidth of the SAG\ninstance.\nThis parame
ter is required when LimitType is set to Percent."
    },
    "LimitType": {
      "Type": "String",
      "Description": "The type of the traffic throttling policy. Valid values:\nAbsolute: throttles traffic by a specific bandw
idth range.\nPercent: throttles traffic by a specific range of bandwidth percentage.",
      "AllowedValues": [
        "Absolute",
        "Percent"
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the traffic throttling policy. The name must be 2 to 128 characters in\nlength, and can conta
in Chinese characters, letters, digits, periods (.), underscores\n(_), and hyphens (-)."
    }
  },
  "Resources": {
    "QosCar": {
      "Type": "ALIYUN::SAG::QosCar",
      "Properties": {
        "MinBandwidthAbs": {
          "Ref": "MinBandwidthAbs"
        },
        "Description": {
          "Ref": "Description"
        },
        "Priority": {
          "Ref": "Priority"
```

```
        },
        "MaxBandwidthPercent": {
          "Ref": "MaxBandwidthPercent"
        },
        "MaxBandwidthAbs": {
          "Ref": "MaxBandwidthAbs"
        },
        "QosId": {
          "Ref": "QosId"
        },
        "PercentSourceType": {
          "Ref": "PercentSourceType"
        },
        "MinBandwidthPercent": {
          "Ref": "MinBandwidthPercent"
        },
        "LimitType": {
          "Ref": "LimitType"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "QosCarId": {
      "Description": "The ID of the traffic throttling policy.",
      "Value": {
        "Fn::GetAtt": [
          "QosCar",
          "QosCarId"
        ]
      }
    }
  }
}
```

63.9. ALIYUN::SAG::QosPolicy

ALIYUN::SAG::QosPolicy is used to create a traffic classification rule for a quality of service (QoS) policy.

Syntax

```
{
  "Type": "ALIYUN::SAG::QosPolicy",
  "Properties": {
    "Description": String,
    "EndTime": String,
    "SourcePortRange": String,
    "SourceCidr": String,
    "Priority": Integer,
    "StartTime": String,
    "DestPortRange": String,
    "DpiGroupIds": List,
    "Name": String,
    "DestCidr": String,
    "DpiSignatureIds": List,
    "QosId": String,
    "IpProtocol": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the traffic classification rule.	The description must be 1 to 512 characters in length, and can contain letters, digits, underscores (_), and hyphens (-). The description must start with a letter.
EndTime	String	No	Yes	The time at which the traffic classification rule becomes invalid.	Specify the time in the ISO 8601 standard in the `YYYY-MM-DDThh:mm:ss+0800` format. The time must be in UTC+8.
SourcePortRange	String	Yes	Yes	The range of the source port.	Valid values: -1, and 1 to 65535. Examples: • 1/200: port 1 to port 200 • 80/80: port 80 • -1/-1: all ports
SourceCidr	String	Yes	Yes	The source CIDR block.	Example: 192.168.1.0/24.
Priority	Integer	Yes	Yes	The priority of the traffic throttling rule to which the traffic classification rule belongs.	Valid values: 1 to 3. A smaller value indicates a higher priority.
StartTime	String	No	Yes	The start time at which the traffic classification rule takes effect.	Specify the time in the ISO 8601 standard in the `YYYY-MM-DDThh:mm:ss+0800` format. The time must be in UTC+8.
DestPortRange	String	Yes	Yes	The range of the destination port.	Valid values: -1, and 1 to 65535. Examples: • 1/200: port 1 to port 200 • 80/80: port 80 • -1/-1: all ports
DpiGroupIds	List	No	Yes	The IDs of application groups.	Valid values: 1 to 100. You can call the ListDpiGroups operation to query the IDs of application groups.
Name	String	No	Yes	The name of the traffic classification rule.	The name must be 2 to 100 characters in length, and can contain letters, digits, hyphens (-), and underscores (_). The name must start with a letter.
DestCidr	String	Yes	Yes	The destination CIDR block.	Specify a CIDR block for this property. Example: 192.168.1.0/24.
DpiSignatureIds	List	No	Yes	The ID of the application.	Valid values: 1 to 100. You can call the ListDpiSignatures operation to query application IDs.
QosId	String	Yes	No	The ID of the QoS policy.	None.
IpProtocol	String	Yes	Yes	The type of the protocol that is applied to the traffic classification rule.	You can specify this property based on the protocol types that are provided in the SAG console.

Return values

Fn::GetAtt

QosPolicyId: the ID of the traffic classification rule.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "EndTime": {
      "Type": "String",
      "Description": "The time when the traffic classification rule becomes invalid.\nSpecify the time in the ISO 8601 standard in the YYYY-MM-DDThh:mm:ss+0800 format.\nThe time must be in UTC+8.",
      "Default": "2019-09-14T16:41:33+0800"
    },
    "SourcePortRange": {
      "Type": "String",
      "Description": "The range of source ports.\nValid values: 1 to 65535 and -1.\nSet this parameter in one of the following formats:\n1/200: a port range from 1 to 200\n80/80: port 80\n-1/-1: all ports",
      "Default": "80/80"
    },
    "SourceCidr": {
      "Type": "String",
      "Description": "The range of the source IP addresses.\nSpecify the value of this parameter in CIDR notation. Example: 192.168.1.0/24.",
      "Default": "10.10.10.0/24"
    },
    "Priority": {
      "Type": "Number",
      "Description": "The priority of the traffic throttling policy to which the traffic classification\nrule belongs.",
      "Default": 3
    },
    "StartTime": {
      "Type": "String",
      "Description": "The time when the traffic classification rule takes effect.\nSpecify the time in the ISO 8601 standard in the YYYY-MM-DDThh:mm:ss+0800 format.\nThe time must be in UTC+8.",
      "Default": "2019-07-14T16:41:33+0800"
    },
    "DestPortRange": {
      "Type": "String",
      "Description": "The range of destination ports.\nValid values: 1 to 65535 and -1.\nSet this parameter in one of the following formats:\n1/200: a port range from 1 to 200\n80/80: port 80\n-1/-1: all ports",
      "Default": "80/80"
    },
    "DpiGroupIds": {
      "Type": "Json",
      "Description": "The ID of the application group.\nYou can enter at most 100 application group IDs at a time.\nYou can call the ListDpiGroups operation to query application group IDs and information about the applications.",
      "MaxLength": 100,
      "Default": ["20"]
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the traffic classification rule.\nThe name must be 2 to 100 characters in length, and can contain digits, underscores\n(_), and hyphens (-). It must start with a letter.",
      "Default": "test"
    },
    "DestCidr": {
      "Type": "String",
      "Description": "The range of the destination IP addresses.\nSpecify the value of this parameter in CIDR notation. Example: 192.168.10.0/24.",
      "Default": "10.10.20.0/24"
    },
    "DpiSignatureIds": {
      "Type": "Json",
      "Description": "The ID of the application.\nYou can enter at most 100 application IDs at a time.\nYou can call the ListDpiSignatures operation to query application IDs and information about the applications.",
      "MaxLength": 100,
      "Default": ["1"]
    },
    "QosId": {
      "Type": "String",
      "Description": "The ID of the QoS policy.",
      "Default": "qos-xitd8690ucu8ro****"
    },
    "IpProtocol": {
```

```
      "Type": "String",
      "Description": "The type of the protocol that applies to the traffic classification rule.\nThe supported protocols provid
ed in this topic are for reference only. The actual\nprotocols in the console shall prevail.",
      "Default": "TCP"
    }
  },
  "Resources": {
    "QosPolicy": {
      "Type": "ALIYUN::SAG::QosPolicy",
      "Properties": {
        "EndTime": {
          "Ref": "EndTime"
        },
        "SourcePortRange": {
          "Ref": "SourcePortRange"
        },
        "SourceCidr": {
          "Ref": "SourceCidr"
        },
        "Priority": {
          "Ref": "Priority"
        },
        "StartTime": {
          "Ref": "StartTime"
        },
        "DestPortRange": {
          "Ref": "DestPortRange"
        },
        "DpiGroupIds": {
          "Ref": "DpiGroupIds"
        },
        "Name": {
          "Ref": "Name"
        },
        "DestCidr": {
          "Ref": "DestCidr"
        },
        "DpiSignatureIds": {
          "Ref": "DpiSignatureIds"
        },
        "QosId": {
          "Ref": "QosId"
        },
        "IpProtocol": {
          "Ref": "IpProtocol"
        }
      }
    }
  },
  "Outputs": {
    "QosPolicyId": {
      "Description": "The ID of the traffic classification rule.",
      "Value": {
        "Fn::GetAtt": [
          "QosPolicy",
          "QosPolicyId"
        ]
      }
    }
  }
}
```

63.10. ALIYUN::SAG::SmartAccessGateway

ALIYUN::SAG::SmartAccessGateway is used to create a Smart Access Gateway (SAG) instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::SmartAccessGateway",
  "Properties": {
    "ReceiverCountry": String,
    "Description": String,
    "ReceiverZip": String,
    "BuyerMessage": String,
    "CidrBlock": String,
    "ReceiverTown": String,
    "HardWareSpec": String,
    "Name": String,
    "ReceiverPhone": String,
    "ReceiverCity": String,
    "RoutingStrategy": String,
    "SecurityLockThreshold": Integer,
    "ReceiverAddress": String,
    "AlreadyHaveSag": Boolean,
    "HaType": String,
    "Period": Integer,
    "MaxBandWidth": Integer,
    "AutoPay": Boolean,
    "ReceiverMobile": String,
    "ReceiverDistrict": String,
    "Activate": Boolean,
    "ChargeType": String,
    "ReceiverState": String,
    "ReceiverName": String,
    "ReceiverEmail": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ReceiverCountry	String	Yes	No	The country to which the receiver of the SAG device belongs.	Example: China.
Description	String	No	Yes	The description of the SAG instance.	The description must be 2 to 256 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter.
ReceiverZip	String	Yes	No	The postcode of the address in which the receiver of the SAG device resides.	N/A
BuyerMessage	String	Yes	No	The remarks left by the buyer.	N/A
CidrBlock	String	No	Yes	The private CIDR block.	N/A
ReceiverTown	String	Yes	No	The town in which the receiver of the SAG device resides.	N/A

Property	Type	Required	Editable	Description	Constraint
HardWareSpec	String	Yes	No	The type of the SAG instance.	Valid values: • sag-100wm: an SAG instance of the hardware type The SAG instance uses SAG-100WM and can connect portals or small branches to Alibaba Cloud. • sag-1000: an SAG instance of the hardware type. The SAG instance uses SAG-1000 and can be installed on your workbench or rack. • sag-vcpe: an SAG instance of the virtual customer-premises equipment (vCPE) type. If you deploy the SAG instance on a host, you can use the host as a customer-premises equipment (CPE) device to migrate services to Alibaba Cloud.
Name	String	No	Yes	The name of the SAG instance.	The description must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter.
ReceiverPhone	String	No	No	The phone number of the receiver to receive the SAG device.	N/A
ReceiverCity	String	Yes	No	The city in which the receiver of the SAG device resides.	N/A
RoutingStrategy	String	No	Yes	The routing policy of the SAG device.	N/A
SecurityLockThreshold	Integer	No	Yes	The maximum period of time in which the SAG device is allowed to remain offline before it is locked.	Unit: seconds.
ReceiverAddress	String	Yes	No	The detailed address of the receiver to receive the SAG device.	N/A
AlreadyHaveSag	Boolean	No	No	Specifies whether the receiver already has an SAG device.	Valid values: • true: The receiver already has an SAG device. • false: The receiver does not have an SAG device. This is the default value.

Property	Type	Required	Editable	Description	Constraint
HaType	String	Yes	No	The deployment mode of the SAG device.	Valid values: • no_backup: Only one SAG device is bought and deployed to connect to Alibaba Cloud. • cold_backup: Two SAG devices are bought and deployed in active-standby mode. One SAG device serves as an active device and the other serves as a standby device. Only the active device is connected to Alibaba Cloud. If the active device does not work as expected, you must manually perform a switchover. • warm_backup: Two SAG devices are bought and deployed in active-active mode. Both SAG devices are connected to Alibaba Cloud. If an active device does not work as expected, a failover is automatically performed. Note If you set the HardWareSpec property to sag-vcpe, you must set this property to warm_backup.
Period	Integer	Yes	No	The subscription period of the SAG instance.	Valid values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Unit: months.
MaxBandWidth	Integer	Yes	No	The bandwidth of the SAG instance.	Valid values: • Valid values if the HardWareSpec property is set to sag-100wm: 2 to 50. • Valid values if the HardWareSpec property is set to sag-1000: 10 to 500. • Valid values if the HardWareSpec property is set to sag-vcpe: 10 to 1000. Unit: Mbit/s.
AutoPay	Boolean	No	No	Specifies whether to enable auto-payment for the SAG instance in subscription mode.	Valid values: • true: enables auto-payment. • false: disables auto-payment. This is the default value.
ReceiverMobile	String	Yes	No	The mobile phone number of the receiver to receive the SAG device.	N/A
ReceiverDistrict	String	Yes	No	The district in which the receiver of the SAG device resides.	N/A
Activate	Boolean	No	Yes	Specifies whether to activate the SAG instance.	Valid values: • true: activates the SAG instance. • false: does not activate the SAG instance. This is the default value.

Property	Type	Required	Editable	Description	Constraint
ChargeType	String	Yes	No	The billing method of the SAG instance.	Set the value to PREPAY, which indicates the subscription billing method.
ReceiverState	String	Yes	No	The province to which the receiver of the SAG device belongs.	N/A
ReceiverName	String	Yes	No	The name of the receiver to receive the SAG device.	N/A
ReceiverEmail	String	Yes	No	The email address of the receiver to receive the SAG device.	N/A

Response parameters

Fn::GetAtt

- OrderId: the ID of the order.
- SmartAGId: the ID of the SAG instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ReceiverCountry": {
      "Type": "String",
      "Description": "The country of the recipient address.",
      "Default": "China"
    },
    "ReceiverZip": {
      "Type": "String",
      "Description": "The postcode of the recipient address.",
      "Default": "310000"
    },
    "BuyerMessage": {
      "Type": "String",
      "Description": "The remarks left by the buyer.",
      "Default": "Message"
    },
    "ReceiverTown": {
      "Type": "String",
      "Description": "The town of the recipient address.",
      "Default": "Zhuantang"
    },
    "HardWareSpec": {
      "Type": "String",
      "Description": "The type of the SAG instance. Valid values:\nsag-100wm\nsag-1000\nsag-vcpe",
      "Default": "sag-100wm"
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the SAG instance.\nThe name must be 2 to 128 characters in length and can contain digits, per
iods (.),\nunderscores (_), and hyphens (-). It must start with a letter.",
      "Default": "test"
    },
    "ReceiverCity": {
      "Type": "String",
      "Description": "The city of the recipient address.",
      "Default": "Hangzhou"
    },
    "ReceiverAddress": {
      "Type": "String",
      "Description": "The detailed address of the recipient.",
      "Default": "No. XX"
    },
```

```
    "HaType": {
      "Type": "String",
      "Description": "The deployment mode. Valid values:\nno_backup: You buy only one SAG device to connect private networks to
Alibaba Cloud.\ncold_backup: You buy two SAG devices in active-standby mode. One SAG device serves as an active\ndevice and the
other serves as a standby device. Only the active device is connected\nto Alibaba Cloud. If the active device is not working as
expected, you must manually\nperform a switchover.\nwarm_backup: You buy two SAG devices in active-active mode. Both SAG device
s are connected to\nAlibaba Cloud. If an active device is not working as expected, a failover is automatically\nperformed.\nNot
e If you want to create an SAG vCPE instance, set the value to warm_backup.",
      "AllowedValues": [
        "cold_backup",
        "no_backup",
        "warm_backup"
      ],
      "Default": "cold_backup"
    },
    "Period": {
      "Type": "Number",
      "Description": "The subscription period of the SAG instance. Unit: months.\nValid values: 1 to 9, 12, 24, and 36.",
      "Default": 12
    },
    "MaxBandWidth": {
      "Type": "Number",
      "Description": "The bandwidth of the SAG instance.\nIf you want to create an SAG CPE instance and the model is sag-100wm,
valid values of this parameter are 2 to 50. Unit: Mbit/s.\nIf you want to create an SAG CPE instance and the model is sag-1000,
valid values of this parameter are 10 to 500. Unit: Mbit/s.\nIf you want to create an SAG vCPE instance, valid values of this p
arameter are 10 to 1000. Unit: Mbit/s.",
      "Default": 12
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable auto-payment for the instance. Valid values:\ntrue: yes\nfalse: no\nIf you se
t the parameter to false, go to Billing Management to complete the payment\nafter you call this operation. After you complete t
he payment, the instance can be\ncreated.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": "false"
    },
    "ReceiverMobile": {
      "Type": "String",
      "Description": "The mobile phone number of the recipient.",
      "Default": "1884085****"
    },
    "ReceiverDistrict": {
      "Type": "String",
      "Description": "The district of the recipient address.",
      "Default": "Xihu"
    },
    "Activate": {
      "Type": "Boolean",
      "Description": "Activate SAG or not. Default is False",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": "true"
    },
    "ChargeType": {
      "Type": "String",
      "Description": "The billing method of the SAG instance. \nSet the value to PREPAY, which specifies the subscription billi
ng method.",
      "Default": "PREPAY"
    },
    "ReceiverState": {
      "Type": "String",
      "Description": "The province of the recipient address.",
      "Default": "China"
    },
    "ReceiverName": {
```

```
      "Type": "String",
      "Description": "The name of the recipient.",
      "Default": "Zhang San"
    },
    "ReceiverEmail": {
      "Type": "String",
      "Description": "The email address of the recipient.",
      "Default": "xx@example.com"
    }
  },
  "Resources": {
    "SmartAccessGateway": {
      "Type": "ALIYUN::SAG::SmartAccessGateway",
      "Properties": {
        "ReceiverCountry": {
          "Ref": "ReceiverCountry"
        },
        "ReceiverZip": {
          "Ref": "ReceiverZip"
        },
        "BuyerMessage": {
          "Ref": "BuyerMessage"
        },
        "ReceiverTown": {
          "Ref": "ReceiverTown"
        },
        "HardWareSpec": {
          "Ref": "HardWareSpec"
        },
        "Name": {
          "Ref": "Name"
        },
        "ReceiverCity": {
          "Ref": "ReceiverCity"
        },
        "ReceiverAddress": {
          "Ref": "ReceiverAddress"
        },
        "HaType": {
          "Ref": "HaType"
        },
        "Period": {
          "Ref": "Period"
        },
        "MaxBandWidth": {
          "Ref": "MaxBandWidth"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "ReceiverMobile": {
          "Ref": "ReceiverMobile"
        },
        "ReceiverDistrict": {
          "Ref": "ReceiverDistrict"
        },
        "Activate": {
          "Ref": "Activate"
        },
        "ChargeType": {
          "Ref": "ChargeType"
        },
        "ReceiverState": {
          "Ref": "ReceiverState"
        },
        "ReceiverName": {
          "Ref": "ReceiverName"
        },
        "ReceiverEmail": {
          "Ref": "ReceiverEmail"
        }
      }
    }
  },
```

```
  "Outputs": {
    "OrderId": {
      "Description": "The ID of the order.",
      "Value": {
        "Fn::GetAtt": [
          "SmartAccessGateway",
          "OrderId"
        ]
      }
    },
    "SmartAGId": {
      "Description": "The ID of the SAG instance.",
      "Value": {
        "Fn::GetAtt": [
          "SmartAccessGateway",
          "SmartAGId"
        ]
      }
    }
  }
}
```

63.11. ALIYUN::SAG::SmartAccessGatewayBinding

ALIYUN::SAG::SmartAccessGatewayBinding is used to bind a Smart Access Gateway (SAG) instance to a specified Cloud Connect Network (CCN) instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::SmartAccessGatewayBinding",
  "Properties": {
    "SmartAGId": String,
    "CcnId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
SmartAGId	String	Yes	No	The ID of the SAG instance.	None
CcnId	String	Yes	No	The ID of the CCN instance to be bound.	None

Response parameters

Fn::GetAtt

SmartAGId: the ID of the SAG instance.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SmartAccessGatewayBinding": {
      "Type": "ALIYUN::SAG::SmartAccessGatewayBinding",
      "Properties": {
        "SmartAGId": {
          "Ref": "SmartAGId"
        },
        "CcnId": {
          "Ref": "CcnId"
        }
      }
    }
  },
  "Parameters": {
    "SmartAGId": {
      "Type": "String",
      "Description": "The ID of the Smart Access Gateway instance."
    },
    "CcnId": {
      "Type": "String",
      "Description": "The ID of the CCN instance to be bound."
    }
  },
  "Outputs": {
    "SmartAGId": {
      "Description": "The ID of the Smart Access Gateway instance.",
      "Value": {
        "Fn::GetAtt": [
          "SmartAccessGatewayBinding",
          "SmartAGId"
        ]
      }
    }
  }
}
```

63.12. ALIYUN::SAG::SerialNumberBinding

ALIYUN::SAG::SerialNumberBinding is used to associate a Smart Access Gateway (SAG) device with an SAG instance.

Syntax

```
{
  "Type": "ALIYUN::SAG::SerialNumberBinding",
  "Properties": {
    "SerialNumber": String,
    "SmartAGId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SerialNumber	String	Yes	No	The serial number (SN) of the SAG device.	Example: `sage62x021922****`.
SmartAGId	String	Yes	No	The ID of the SAG instance.	Example: `sag-r79m060r6oy55******`.

Return values

Fn::GetAtt

SmartAGId: the ID of the SAG instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SerialNumber": {
      "Type": "String",
      "Description": "The serial number (SN) of the SAG device.",
      "Default": "sage62x021922****"
    },
    "SmartAGId": {
      "Type": "String",
      "Description": "The ID of the SAG instance.",
      "Default": "sag-r79m060r6oy55******"
    }
  },
  "Resources": {
    "SerialNumberBinding": {
      "Type": "ALIYUN::SAG::SerialNumberBinding",
      "Properties": {
        "SerialNumber": {
          "Ref": "SerialNumber"
        },
        "SmartAGId": {
          "Ref": "SmartAGId"
        }
      }
    }
  },
  "Outputs": {
    "SmartAGId": {
      "Description": "The ID of the SAG instance.",
      "Value": {
        "Fn::GetAtt": [
          "SerialNumberBinding",
          "SmartAGId"
        ]
      }
    }
  }
}
```

64.SLB

64.1. ALIYUN::SLB::AccessControl

ALIYUN::SLB::AccessControl is used to create an access control list (ACL).

Syntax

```
{
  "Type": "ALIYUN::SLB::AccessControl",
  "Properties": {
    "AddressIPVersion": String,
    "AclName": String,
    "AclEntrys": List,
    "Tags": List,
    "ResourceGroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AddressIPVersion	String	No	No	The Internet Protocol version.	Valid values: • ipv4 • ipv6
AclName	String	Yes	Yes	The name of the ACL.	None.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the ACL belongs.	None.
AclEntrys	List	No	No	The list of ACL entries.	The list can contain a maximum of 50 ACL entries. For more information, see AclEntrys properties.
Tags	List	No	Yes	The tags.	You can add up to 20 tags. For more information, see Tags property.

AclEntrys syntax

```
"AclEntrys": [
  {
    "comment": String,
    "entry": String
  }
]
```

AclEntrys properties

Property	Type	Required	Editable	Description	Constraint
comment	String	No	No	The description of the ACL entry.	None.
entry	String	Yes	No	The IP address or CIDR block.	None.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags property

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. The tag key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. The tag value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

AclId: the ID of the ACL.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "AclEntrys": {
      "Type": "Json",
      "Description": "A list of acl entrys. Each entry can be IP addresses or CIDR blocks. Max length: 50.",
      "MaxLength": 50
    },
    "AddressIPVersion": {
      "Type": "String",
      "Description": "IP version. Could be \"ipv4\" or \"ipv6\".",
      "AllowedValues": [
        "ipv4",
        "ipv6"
      ]
    },
    "AclName": {
      "Type": "String",
      "Description": "The name of the access control list."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "AccessControl": {
      "Type": "ALIYUN::SLB::AccessControl",
      "Properties": {
        "AclEntrys": {
          "Ref": "AclEntrys"
        },
        "AddressIPVersion": {
          "Ref": "AddressIPVersion"
        },
        "AclName": {
          "Ref": "AclName"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
    "AclId": {
      "Description": "The ID of the access control list.",
      "Value": {
        "Fn::GetAtt": [
          "AccessControl",
          "AclId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AclEntrys:
    Description: 'A list of acl entrys. Each entry can be IP addresses or CIDR blocks.
      Max length: 50.'
    MaxLength: 50
    Type: Json
  AclName:
    Description: The name of the access control list.
    Type: String
  AddressIPVersion:
    AllowedValues:
    - ipv4
    - ipv6
    Description: IP version. Could be "ipv4" or "ipv6".
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  AccessControl:
    Properties:
      AclEntrys:
        Ref: AclEntrys
      AclName:
        Ref: AclName
      AddressIPVersion:
        Ref: AddressIPVersion
      Tags:
        Ref: Tags
    Type: ALIYUN::SLB::AccessControl
Outputs:
  AclId:
    Description: The ID of the access control list.
    Value:
      Fn::GetAtt:
      - AccessControl
      - AclId
```

To view more examples, visit AccessControl.json and AccessControl.yml.

64.2. ALIYUN::SLB::BackendServerAttachment

ALIYUN::SLB::BackendServerAttachment is used to attach backend servers to an SLB instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::BackendServerAttachment",
  "Properties": {
    "LoadBalancerId": String,
    "BackendServers": List,
    "BackendServerList": List,
    "BackendServerWeightList": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LoadBalancerId	String	Yes	No	The unique ID of the SLB instance.	None.

Property	Type	Required	Editable	Description	Constraint
BackendServerList	List	No	Yes	The list of backend servers to be attached.	The LoadBalancerId parameter is used together with the BackendServerWeight List parameter. Separate ECS instance IDs with commas (,). This parameter is ignored when the BackendServers parameter is specified.
BackendServerWeight List	List	No	Yes	The weights of all ECS instances specified by the BackendServerList parameter in order.	If this parameter is not specified, the weight of each ECS instance specified by the BackendServerList parameter is 100. When the number of items specified by BackendServerWeight List is less than that specified by BackendServerList, the remaining ECS instances in the backend server list are assigned the last weight value in the backend server weight list.
BackendServers	List	No	Yes	The list of backend servers to be attached.	Only ECS instances that are in the running state can be attached to the SLB instance as backend servers. For more information, see BackendServers properties.

BackendServers syntax

```
"BackendServers": [
  {
    "ServerId" : String,
    "Weight" : Integer,
    "Type": String,
    "ServerIp": String,
    "Description": String
  }
]
```

BackendServers properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ServerId	String	Yes	Yes	The ID of the ECS instance.	Only ECS instances that are in the running state can be attached to the SLB instance as backend servers. A maximum of 20 backend servers can be attached each time. You can specify elastic network interfaces (ENIs) as the backend servers for only guaranteed-performance SLB instances.
Weight	Integer	Yes	Yes	The weight of the ECS instance in the SLB instance.	Valid values: 0 to 100. Default value: 100.
ServerIp	String	No	No	The IP address of the backend server.	None.
Type	String	No	No	The type of the backend server.	Default value: ecs. Valid values: • ecs: ECS instance • eni: ENI • eci: Elastic Container Instance (ECI)
Description	String	No	Yes	The description of the backend server.	The description must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), and underscores (_).

Response parameters

Fn::GetAtt

- BackendServers: the backend servers attached to the SLB instance.
- LoadBalancerId: the ID of the SLB instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "BackendServerList": {
      "Type": "Json",
      "Description": "The comma delimited instance id list. If the property \"BackendServers\" is setting, this property will b
e ignored."
    },
    "LoadBalancerId": {
      "Type": "String",
      "Description": "The id of load balancer."
    },
    "BackendServerWeightList": {
      "Type": "CommaDelimitedList",
      "Description": "The comma delimited weight list. If no value specified will use 100. If the length is small than \"Backen
dServerList\", it will copy the last one to fill the array. If the property \"BackendServers\" is setting, this property will b
e ignored."
    },
    "BackendServers": {
      "Type": "Json",
      "Description": "The list of ECS instance, which will attached to load balancer."
    }
  },
  "Resources": {
    "BackendServer": {
      "Type": "ALIYUN::SLB::BackendServerAttachment",
      "Properties": {
        "BackendServerList": {
          "Ref": "BackendServerList"
        },
        "LoadBalancerId": {
          "Ref": "LoadBalancerId"
        },
        "BackendServerWeightList": {
          "Ref": "BackendServerWeightList"
        },
        "BackendServers": {
          "Ref": "BackendServers"
        }
      }
    }
  },
  "Outputs": {
    "LoadBalancerId": {
      "Description": "The id of load balancer.",
      "Value": {
        "Fn::GetAtt": [
          "BackendServer",
          "LoadBalancerId"
        ]
      }
    },
    "BackendServers": {
      "Description": "The collection of attached backend server.",
      "Value": {
        "Fn::GetAtt": [
          "BackendServer",
          "BackendServers"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  BackendServerList:
    Type: Json
    Description: >-
      The comma delimited instance id list. If the property "BackendServers" is
      setting, this property will be ignored.
  LoadBalancerId:
    Type: String
    Description: The id of load balancer.
  BackendServerWeightList:
    Type: CommaDelimitedList
    Description: >-
      The comma delimited weight list. If no value specified will use 100. If
      the length is small than "BackendServerList", it will copy the last one to
      fill the array. If the property "BackendServers" is setting, this property
      will be ignored.
  BackendServers:
    Type: Json
    Description: 'The list of ECS instance, which will attached to load balancer.'
Resources:
  BackendServer:
    Type: 'ALIYUN::SLB::BackendServerAttachment'
    Properties:
      BackendServerList:
        Ref: BackendServerList
      LoadBalancerId:
        Ref: LoadBalancerId
      BackendServerWeightList:
        Ref: BackendServerWeightList
      BackendServers:
        Ref: BackendServers
Outputs:
  LoadBalancerId:
    Description: The id of load balancer.
    Value:
      'Fn::GetAtt':
        - BackendServer
        - LoadBalancerId
  BackendServers:
    Description: The collection of attached backend server.
    Value:
      'Fn::GetAtt':
        - BackendServer
        - BackendServers
```

64.3. ALIYUN::SLB::BackendServerToVServerGroupAddition

ALIYUN::SLB::BackendServerToVServerGroupAddition is used to add backend servers to an existing vServer group.

Syntax

```
{
  "Type": "ALIYUN::SLB::BackendServerToVServerGroupAddition",
  "Properties": {
    "BackendServers": List,
    "VServerGroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VServerGroupId	String	Yes	No	The ID of the vServer group.	None

Property	Type	Required	Editable	Description	Constraint
BackendServers	List	Yes	Yes	The list of backend servers.	For more information, see BackendServers properties.

BackendServers syntax

```
"BackendServers": [
  {
    "ServerId": String,
    "Port": Integer,
    "Weight": Integer,
    "Type": String,
    "Description": String,
    "ServerIp": String
  }
]
```

BackendServers properties

Property	Type	Required	Editable	Description	Constraint
ServerId	String	Yes	Yes	The ID of the backend server.	None
Port	Integer	Yes	Yes	The port that is used by the backend server.	Valid values: 1 to 65535.
Weight	Integer	No	Yes	The weight of the backend server.	Valid values: 0 to 100.
Type	String	No	Yes	The type of the backend server.	Default value: ecs. Valid values: • ecs: Elastic Compute Service (ECS) instances • eni: elastic network interfaces (ENIs) Note You can specify ENIs as backend servers only for high-performance SLB instances.
Description	String	No	Yes	The description of the backend server.	The description must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), periods (.),and underscores (_).
ServerIp	String	No	Yes	The IP address of the backend server.	The IP addresses of ECS instances or ENIs are supported.

Response parameters

Fn::GetAtt

VServerGroupId: the ID of the vServer group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VServerGroupId": {
      "Type": "String",
      "Description": "The ID of virtual server group."
    },
    "BackendServers": {
      "Type": "Json",
      "Description": "The list of a combination of ECS Instance-Port-Weight.Same ecs instance with different port is allowed, b
ut same ecs instance with same port isn't."
    }
  },
  "Resources": {
    "BackendServerToVServerGroupAddition": {
      "Type": "ALIYUN::SLB::BackendServerToVServerGroupAddition",
      "Properties": {
        "VServerGroupId": {
          "Ref": "VServerGroupId"
        },
        "BackendServers": {
          "Ref": "BackendServers"
        }
      }
    }
  },
  "Outputs": {
    "VServerGroupId": {
      "Description": "The ID of virtual server group.",
      "Value": {
        "Fn::GetAtt": [
          "BackendServerToVServerGroupAddition",
          "VServerGroupId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  VServerGroupId:
    Type: String
    Description: The ID of virtual server group.
  BackendServers:
    Type: Json
    Description: >-
      The list of a combination of ECS Instance-Port-Weight.Same ecs instance
      with different port is allowed, but same ecs instance with same port
      isn't.
Resources:
  BackendServerToVServerGroupAddition:
    Type: 'ALIYUN::SLB::BackendServerToVServerGroupAddition'
    Properties:
      VServerGroupId:
        Ref: VServerGroupId
      BackendServers:
        Ref: BackendServers
Outputs:
  VServerGroupId:
    Description: The ID of virtual server group.
    Value:
      'Fn::GetAtt':
        - BackendServerToVServerGroupAddition
        - VServerGroupId
```

To view more examples, visit Listener.json and Listener.yml. In the examples, the ALIYUN::SLB::Listener, ALIYUN::SLB::LoadBalancerClone, ALIYUN::SLB::Certificate, ALIYUN::SLB::DomainExtension, ALIYUN::SLB::VServerGroup, ALIYUN::SLB::Rule, and ALIYUN::SLB::BackendServerToVServerGroupAddition resource types are involved.

64.4. ALIYUN::SLB::Certificate

ALIYUN::SLB::Certificate is used to upload a certificate to a Server Load Balancer (SLB) instance. Server certificates and CA certificates are supported.

Notice

- You can upload only a single CA certificate at a time ("CertificateType": "CA ").
- You can upload only a single server certificate and its corresponding private key at a time ("CertificateType": "Server ").

Syntax

```
{
  "Type": "ALIYUN::SLB::Certificate",
  "Properties": {
    "CertificateName": String,
    "Certificate": String,
    "AliCloudCertificateName": String,
    "PrivateKey": String,
    "ResourceGroupId": String,
    "CertificateType": String,
    "AliCloudCertificateId": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group.	None
CertificateName	String	No	Yes	The name of the certificate.	None
Certificate	String	Yes	No	The CA certificate to be uploaded.	None
AliCloudCertificateName	String	No	No	The name of the Alibaba Cloud certificate.	None
PrivateKey	String	No	No	The private key to be uploaded.	None
AliCloudCertificateId	String	No	No	The ID of the Alibaba Cloud certificate.	This parameter is required if you use a certificate from Alibaba Cloud SSL Certificates Service.
CertificateType	String	No	No	The type of the certificate.	Valid values: • Server • CA
Tags	List	No	Yes	The tags of the certificate.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- CertificateId: the ID of the certificate.
- Fingerprint: the fingerprint of the certificate.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "CertificateType": {
      "Type": "String",
      "Description": "The type of the certificate.",
      "AllowedValues": [
        "Server",
        "CA"
      ],
      "Default": "Server"
    },
    "AliCloudCertificateName": {
      "Type": "String",
      "Description": "The name of the Alibaba Cloud certificate."
    },
    "PrivateKey": {
      "Type": "String",
      "Description": "The private key."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "CertificateName": {
      "Type": "String",
      "Description": "The name of the certificate."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Certificate": {
      "Type": "String",
      "Description": "The content of the certificate public key."
    },
    "AliCloudCertificateId": {
      "Type": "String",
      "Description": "The ID of the Alibaba Cloud certificate."
    }
  },
  "Resources": {
    "SLBCertificate": {
      "Type": "ALIYUN::SLB::Certificate",
      "Properties": {
        "CertificateType": {
          "Ref": "CertificateType"
        },
        "AliCloudCertificateName": {
```

```
          "Ref": "AliCloudCertificateName"
        },
        "PrivateKey": {
          "Ref": "PrivateKey"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "CertificateName": {
          "Ref": "CertificateName"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Certificate": {
          "Ref": "Certificate"
        },
        "AliCloudCertificateId": {
          "Ref": "AliCloudCertificateId"
        }
      }
    }
  },
  "Outputs": {
    "Fingerprint": {
      "Description": "The fingerprint of the certificate.",
      "Value": {
        "Fn::GetAtt": [
          "SLBCertificate",
          "Fingerprint"
        ]
      }
    },
    "CertificateId": {
      "Description": "The ID of the certificate.",
      "Value": {
        "Fn::GetAtt": [
          "SLBCertificate",
          "CertificateId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AliCloudCertificateId:
    Description: The ID of the Alibaba Cloud certificate.
    Type: String
  AliCloudCertificateName:
    Description: The name of the Alibaba Cloud certificate.
    Type: String
  Certificate:
    Description: The content of the certificate public key.
    Type: String
  CertificateName:
    Description: The name of the certificate.
    Type: String
  CertificateType:
    AllowedValues:
    - Server
    - CA
    Default: Server
    Description: The type of the certificate.
    Type: String
  PrivateKey:
    Description: The private key.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  SLBCertificate:
    Properties:
      AliCloudCertificateId:
        Ref: AliCloudCertificateId
      AliCloudCertificateName:
        Ref: AliCloudCertificateName
      Certificate:
        Ref: Certificate
      CertificateName:
        Ref: CertificateName
      CertificateType:
        Ref: CertificateType
      PrivateKey:
        Ref: PrivateKey
      ResourceGroupId:
        Ref: ResourceGroupId
      Tags:
        Ref: Tags
    Type: ALIYUN::SLB::Certificate
Outputs:
  CertificateId:
    Description: The ID of the certificate.
    Value:
      Fn::GetAtt:
      - SLBCertificate
      - CertificateId
  Fingerprint:
    Description: The fingerprint of the certificate.
    Value:
      Fn::GetAtt:
      - SLBCertificate
      - Fingerprint
```

For more examples, visit Listener.json and Listener.yml. In the examples, the ALIYUN::SLB::Listener, ALIYUN::SLB::LoadBalancerClone, ALIYUN::SLB::Certificate, ALIYUN::SLB::DomainExtension, ALIYUN::SLB::VServerGroup, ALIYUN::SLB::Rule, and ALIYUN::SLB::BackendServerToVServerGroupAddition resource types are involved.

64.5. ALIYUN::SLB::DomainExtension

ALIYUN::SLB::DomainExtension is used to create a domain extension for an SLB instance.

Statement

```
{
  "Type": "ALIYUN::SLB::DomainExtension",
  "Properties": {
    "Domain": String,
    "ListenerPort": Integer,
    "ServerCertificateId": String,
    "LoadBalancerId": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
Domain	String	No	No	The custom domain name.	None
ListenerPort	Integer	Yes	No	The frontend port used by the HTTPS listener of the SLB instance.	Valid values: 1 to 65535.
ServerCertificateId	String	No	Yes	The ID of the certificate corresponding to the domain name.	None
LoadBalancerId	String	No	No	The ID of the SLB instance.	None

Response parameters

Fn::GetAtt

- DomainExtensionId: the ID of the created domain extension.
- ListenerPort: The frontend port used by the SLB instance.

Sample request

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DomainExtension": {
      "Type": "ALIYUN::SLB::DomainExtension",
      "Properties": {
        "Domain": "*.example.com",
        "ListenerPort": "443",
        "ServerCertificateId": "123157908552****_166f8204689_1714763408_70998****",
        "LoadBalancerId": "lb-bp1o94dp5i6earr9g****"
      }
    }
  },
  "Outputs": {
    "DomainExtensionId": {
      "Value": {
        "Fn::GetAtt": [
          "DomainExtension",
          "DomainExtensionId"
        ]
      }
    },
    "ListenerPort": {
      "Value": {
        "Fn::GetAtt": [
          "DomainExtension",
          "ListenerPort"
        ]
      }
    }
  }
}
```

64.6. ALIYUN::SLB::Listener

ALIYUN::SLB::Listener is used to create a listener for a Server Load Balancer (SLB) instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::Listener",
  "Properties": {
    "MasterSlaveServerGroupId": String,
    "AclStatus": String,
    "Protocol": String,
    "AclId": String,
    "ServerCertificateId": String,
    "HealthCheck": Map,
    "RequestTimeout": Integer,
    "IdleTimeout": Integer,
    "ListenerPort": Integer,
    "HttpConfig": Map,
    "Bandwidth": Integer,
    "AclType": String,
    "BackendServerPort": Integer,
    "Scheduler": String,
    "LoadBalancerId": String,
    "CACertificateId": String,
    "Persistence": Map,
    "VServerGroupId": String,
    "Description": String,
    "PortRange": List,
    "StartListener": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
MasterSlaveServerGroupId	String	No	No	The ID of the primary/secondary server group.	None
AclStatus	String	No	Yes	Specifies whether to enable the access control feature.	Valid values: • on (default): enables the access control feature. • off: disables the access control feature.
AclId	String	No	Yes	The ID of the access control list (ACL) to be associated with the listener.	This parameter is required when the AclStatus parameter is set to on.
AclType	String	No	Yes	The type of the ACL.	Valid values: • white: specifies the ACL as a whitelist. Only requests from the IP addresses or CIDR blocks in the ACL are forwarded. Whitelists are applicable to scenarios in which you want an application to be accessed only from specific IP addresses. Risks may arise if the whitelist is improperly set. After you configure a whitelist, only the IP addresses that are specified in the whitelist can access the SLB listener. If you enable a whitelist but the whitelist does not contain an IP address, the listener does not forward requests. • black: specifies the ACL as a blacklist. All requests from the IP addresses or CIDR blocks in the ACL are rejected. Blacklists are applicable to scenarios in which you want to deny access from specific IP addresses to an application. If you enable a blacklist but the blacklist does not contain an IP address, the listener forwards all requests. This parameter is required when the AclStatus parameter is set to on.
Protocol	String	Yes	No	The protocol over which the listener forwards requests.	Valid values: • http • https • tcp • udp
ListenerPort	Integer	Yes	No	The frontend port that is used by the SLB instance.	Valid values: 1 to 65535.
Bandwidth	Integer	Yes	No	The bandwidth limit of the listener.	Valid values: 1 to 1000 and -1. Unit: Mbit/s. Valid values: • For a pay-by-bandwidth Internet-facing SLB instance, you cannot set this parameter to -1. The sum of bandwidth limits that you specify for all listeners of the SLB instance cannot exceed the bandwidth limit of the SLB instance. • For a pay-by-data-transfer Internet-facing SLB instance, you can set this parameter to -1, which specifies that the bandwidth is unlimited.

Property	Type	Required	Editable	Description	Constraint
BackendServerPort	Integer	Yes	No	The backend port that is used by the SLB instance.	Valid values: 1 to 65535.
LoadBalancerId	String	Yes	No	The ID of the SLB instance.	None
HealthCheck	Map	No	No	The health check settings of the listener.	For more information, see HealthCheck properties.
Persistence	Map	No	Yes	The persistence properties.	For more information, see Persistence properties.
Scheduler	String	No	No	The scheduling algorithm.	Valid values: • wrr (default): Backend servers with higher weights receive more requests than backend servers with lower weights. • wlc: Requests are distributed to backend servers in sequence.
CACertificateId	String	No	No	The ID of the certificate authority (CA) certificate.	This parameter is valid only when the Protocol parameter is set to https.
ServerCertificateId	String	No	Yes	The ID of the server certificate.	This parameter is required and valid only when the Protocol parameter is set to https.
VServerGroupId	String	No	No	The ID of the server group.	None
RequestTimeout	Integer	No	No	The timeout period of a request.	Valid values: 1 to 180. Unit: seconds.
IdleTimeout	Integer	No	No	The timeout period of an idle connection.	Valid values: 1 to 60. Unit: seconds.
HttpConfig	Map	No	No	The HTTP configurations.	For more information, see HttpConfig properties.
Description	String	No	No	The description of the listener.	The description must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), and underscores (_).
PortRange	List	No	No	The range of ports on which the SLB instance listens.	Set StartPort to 1 and EndPort to 65535. For more information, see PortRange properties.
StartListener	Boolean	No	No	Specifies whether to start the listener.	Valid values: • true (default): starts the listener. • false: does not start the listener.

HealthCheck syntax

```
"HealthCheck": {
  "Domain": String,
  "Interval": Integer,
  "URI": String,
  "HttpCode": String,
  "HealthyThreshold": Integer,
  "HealthCheckType": String,
  "Timeout": Integer,
  "UnhealthyThreshold": Integer,
  "Port": Integer,
  "Switch": String
}
```

HealthCheck properties

Property	Type	Required	Editable	Description	Constraint
Domain	String	No	No	The domain name that is used for health checks.	Valid values: • $_ip • Custom string: A custom string must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), and periods (.). • An empty string **Note** When this parameter is set to $_ip or left empty, the SLB instance uses the private IP addresses of backend servers as the domain names for health checks.
Interval	Integer	No	No	The interval between two consecutive health checks.	Valid values: 1 to 5. Unit: seconds.
URI	String	No	No	The URI that is used for health checks.	The URI must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), percent signs (%), question marks (?), number signs (#), and ampersands (&). The URI must start with a forward slash (/).
HttpCode	String	No	No	The HTTP status code.	Valid values: • http_2xx (default) • http_3xx • http_4xx • http_5xx Separate multiple HTTP status codes with commas (,).
HealthyThreshold	Integer	No	No	The threshold that is used to determine whether a backend server is healthy. This value specifies the number of consecutive successful health checks that is required before the health status of a backend server is changed from fail to success.	Valid values: 1 to 10.

Property	Type	Required	Editable	Description	Constraint
HealthCheckType	String	No	No	The type of health check.	Valid values: • tcp • http
Timeout	Integer	No	No	The timeout period of a health check response.	Valid values: 1 to 50. Unit: seconds. **Note** This parameter is valid only when the value is greater than or equal to the value of the Interval parameter. Otherwise, the value of this parameter is overwritten by the value of the Interval parameter.
UnhealthyThreshold	Integer	No	No	The threshold that is used to determine whether a backend server is unhealthy. This value specifies the number of consecutive failed health checks that is required before the health status of a backend server is changed from success to fail.	Valid values: 1 to 10.
Port	Integer	No	No	The port that is used for health checks.	Valid values: 0 to 65535.
Switch	String	No	No	Specifies whether to enable health checks.	Valid values: • on: enables health checks. • off: disables health checks. **Note** This parameter is valid only when the Protocol parameter is set to http or https. If the Switch parameter is not set, health checks are disabled by default unless health check items are already configured.

Persistence syntax

```
"Persistence": {
  "PersistenceTimeout": Integer,
  "CookieTimeout": Integer,
  "XForwardedFor": String,
  "XForwardedFor_SLBID": String,
  "XForwardedFor_proto": String,
  "XForwardedFor_SLBIP": String,
  "Cookie": String,
  "StickySession": String,
  "StickySessionType": String,
  "XForwardedFor_ClientSrcPort": String,
  "XForwardedFor_SLBPORT": String
}
```

Persistence properties

Property	Type	Required	Editable	Description	Constraint
StickySession	String	No	Yes	Specifies whether to enable session persistence.	Valid values: • on: enables session persistence. • off: disables session persistence.
PersistenceTimeout	Integer	No	Yes	The timeout period for session persistence.	Valid values: 0 to 1000. Default value: 0. 0: disables sessions persistence. Unit: seconds.
CookieTimeout	Integer	No	Yes	The timeout period of a cookie.	Valid values: 1 to 86400. Unit: seconds. **Note** This parameter is required when the StickySession parameter is set to on and the StickySessionType parameter is set to insert.
XForwardedFor	String	No	Yes	Specifies whether to use the X-Forwarded-For header to obtain the real IP address of a client.	Valid values: • on: uses the X-Forwarded-For header to obtain the real IP address of a client. • off (default): does not use the X-Forwarded-For header to obtain the real IP address of a client.
XForwardedFor_proto	String	No	Yes	Specifies whether to use the X-Forwarded-Proto header to obtain the listener protocol of the SLB instance.	Valid values: • on: uses the X-Forwarded-Proto header to obtain the listener protocol of the SLB instance. • off (default): does not use the X-Forwarded-Proto header to obtain the listener protocol of the SLB instance.
XForwardedFor_SLBID	String	No	Yes	Specifies whether to use the SLB-ID header to obtain the ID of the SLB instance.	Valid values: • on: uses the SLB-ID header to obtain the ID of the SLB instance. • off (default): does not use the SLB-ID header to obtain the ID of the SLB instance.
XForwardedFor_SLBIP	String	No	Yes	Specifies whether to use the SLB-IP header to obtain the real IP address that is requested by a client.	Valid values: • on: uses the SLB-IP header to obtain the real IP address that is requested by a client. • off (default): does not use the SLB-IP header to obtain the real IP address that is requested by a client.
Cookie	String	No	Yes	The cookie that is configured on the server.	The cookie must be 1 to 200 characters in length, and cannot start with a dollar sign ($). The cookie can contain letters and digits, and cannot contain commas (,), semicolons (;), or spaces. **Note** This parameter is required when the StickySession parameter is set to on and the StickySessionType parameter is set to server.

Property	Type	Required	Editable	Description	Constraint
StickySessionType	String	No	Yes	The method that is used to handle a cookie.	Valid values: • insert: inserts a cookie. • server: rewrites a cookie. Note This parameter is required when the StickySession parameter is set to on.
XForwardedFor_ClientSrcPort	String	No	Yes	Specifies whether to use the X-Forwarded-Client-srcport header to obtain the port that is used by a client to connect to the SLB instance.	Valid values: • on: uses the X-Forwarded-Client-srcport header to obtain the port that is used by a client to connect to the SLB instance. • off (default): does not use the X-Forwarded-Client-srcport header to obtain the port that is used by a client to connect to the SLB instance.
XForwardedFor_SLBPORT	String	No	Yes	Specifies whether to use the X-Forwarded-Proto header to obtain the listener protocol of the SLB instance.	Valid values: • on: uses the X-Forwarded-Proto header to obtain the listener protocol of the SLB instance. • off (default): does not use the X-Forwarded-Proto header to obtain the listener protocol of the SLB instance.

HttpConfig syntax

```
"HttpConfig": {
  "ForwardPort": Integer,
  "ListenerForward": String
}
```

HttpConfig properties

Property	Type	Required	Editable	Description	Constraint
ForwardPort	Integer	No	No	The port that is used to redirect HTTP requests to HTTPS.	Valid values: 1 to 65535. Default value: 443.
ListenerForward	String	No	No	Specifies whether to enable redirection from HTTP to HTTPS.	Valid values: • on: enables redirection. • off (default:) disables redirection.

PortRange syntax

```
"PortRange": [
  {
    "StartPort": Integer,
    "EndPort": Integer
  }
]
```

PortRange properties

Property	Type	Required	Editable	Description	Constraint
StartPort	Integer	Yes	No	The start of the port range.	Set the value to 1.

Property	Type	Required	Editable	Description	Constraint
EndPort	Integer	Yes	No	The end of the port range.	Set the value to 65535.

Response parameters

Fn::GetAtt

- LoadBalancerId: the unique ID of the SLB instance.
- ListenerPortsAndProtocol: the ports and protocols that are used by the SLB listener.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LoadBalancerId": {
      "Type": "String",
      "Label": "SLB instance ID",
      "Default": "slb-*****"
    }
  },
  "Resources": {
    "SlbListener": {
      "Type": "ALIYUN::SLB::Listener",
      "Properties": {
        "Persistence": {
          "CookieTimeout": 60,
          "StickySession": "on",
          "PersistenceTimeout": 180,
          "XForwardedFor": "off",
          "StickySessionType": "insert"
        },
        "ListenerPort": 80,
        "Bandwidth": -1,
        "HealthCheck": {
          "HttpCode": "http_2xx,http_3xx,http_4xx,http_5xx",
          "HealthCheckType": "tcp",
          "UnhealthyThreshold": 3,
          "Timeout": 5,
          "HealthyThreshold": 3,
          "Port": 80,
          "URI": "/",
          "Interval": 2
        },
        "LoadBalancerId": {
          "Ref": "LoadBalancerId"
        },
        "BackendServerPort": 80,
        "Protocol": "tcp"
      }
    }
  },
  "Outputs": {
  }
}
```

To view more examples, visit Listener.json and Listener.yml. The examples describe the following resource types: ALIYUN::SLB::Listener, ALIYUN::SLB::LoadBalancerClone, ALIYUN::SLB::Certificate, ALIYUN::SLB::DomainExtension, ALIYUN::SLB::VServerGroup, ALIYUN::SLB::Rule, and ALIYUN::SLB::BackendServerToVServerGroupAddition.

64.7. ALIYUN::SLB::LoadBalancer

ALIYUN::SLB::LoadBalancer is used to create a Server Load Balancer (SLB) instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::LoadBalancer",
  "Properties": {
    "DeletionProtection": Boolean,
    "AddressType": String,
    "Tags": List,
    "InternetChargeType": String,
    "Bandwidth": Integer,
    "SlaveZoneId": String,
    "ResourceGroupId": String,
    "AutoPay": Boolean,
    "VpcId": String,
    "PricingCycle": String,
    "LoadBalancerName": String,
    "Duration": Number,
    "VSwitchId": String,
    "LoadBalancerSpec": String,
    "MasterZoneId": String,
    "PayType": String,
    "ModificationProtectionReason": String,
    "ModificationProtectionStatus": String,
    "AddressIPVersion": String,
    "AutoRenewPeriod": Integer,
    "AutoRenew": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	Yes	The ID of the resource group.	None.
DeletionProtection	Boolean	No	No	Specifies whether to enable deletion protection.	Default value: false. Valid values: • true: enables deletion protection. • false: does not enable deletion protection.
VpcId	String	No	No	The ID of the virtual private cloud (VPC).	None.
SlaveZoneId	String	No	No	The zone ID of the SLB instance.	None.
Bandwidth	Integer	No	No	The maximum bandwidth of the Internet-facing SLB instance that supports the pay-by-bandwidth metering method.	Valid values: 1 to 10000. Unit: Mbit/s. Default value: 1. The maximum bandwidth of an internal-facing SLB instance is set by the system when you configure the pay-by-data-transfer metering method for the instance. • If the InternetChargeType property is set to paybybandwidth, the Bandwidth property only takes effect when the Bandwidth value of the SLB listener is set. • If the InternetChargeType property is set to paybytraffic, the Bandwidth value that you set for the SLB listener takes precedence over the value of the Bandwidth property.

Property	Type	Required	Editable	Description	Constraint
AddressType	String	No	No	The IP address type of the SLB instance.	Default value: internet. Valid values: • internet: The SLB instance uses a public IP address. The domain name of the instance is resolved to the public IP address. Therefore, the instance can be accessed over the Internet. • intranet: The SLB instance uses a private IP address. The domain name of the instance is resolved to the private IP address. Therefore, the SLB instance can be accessed only over the VPC in which the instance is deployed.
VSwitchId	String	No	No	The ID of the vSwitch.	None.
LoadBalancerName	String	No	Yes	The name of the SLB instance.	The name must be 1 to 80 characters in length, and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), and underscores (_). If you do not specify this property, the system assigns a name as the value of this property.
InternetChargeType	String	No	No	The metering method of the Internet-facing SLB instance.	Default value: paybytraffic. Valid values: • paybybandwidth • paybytraffic
MasterZoneId	String	No	No	The primary zone ID of the SLB instance.	None.
Tags	List	No	Yes	The tags that you want to add to the SLB instance.	You can add up to five tags. For more information, see Tags properties.
LoadBalancerSpec	String	No	Yes	The specification of the SLB instance.	Default value: slb.s1.small. Valid values: • slb.s1.small • slb.s2.small • slb.s2.medium • slb.s3.small • slb.s3.medium • slb.s3.large • slb.s3.xlarge • slb.s3.xxlarge The specification of an SLB instance varies based on the region in which the SLB instance is deployed. For more information about each instance specification, see FAQ about high-performance SLB instances.
PayType	String	No	No	The billing method of the SLB instance.	Valid values: • PayOnDemand: the pay-as-you-go billing method • PrePay: the subscription billing method

Property	Type	Required	Editable	Description	Constraint
ModificationProtectionStatus	String	No	No	Specifies whether to enable the configuration read-only mode.	Default value: NonProtection. Valid values: • NonProtection: disables the configuration read-only mode. • ConsoleProtection: enables the configuration read-only mode. You can enable this mode in the SLB console.
ModificationProtectionReason	String	No	No	The reason why you want to enable the configuration read-only mode.	The reason must be 1 to 80 characters in length, and can contain letters, digits, periods (.), and hyphens (-).
AddressIPVersion	String	No	No	The version of the IP address.	Valid values: • ipv4 • ipv6 Note When you set the value to ipv6, take note of the available regions and specifications.
AutoRenewPeriod	Integer	No	No	The auto-renewal cycle of the SLB instance.	This property only takes effect when the AutoRenew property is set to true. • Valid values if the PricingCycle property is set to Month: 1 to 9. • Valid values if the PricingCycle property is set to Year: 1 to 3.
AutoRenew	Boolean	No	No	Specifies whether to enable auto-renewal for the SLB instance.	Default value: false. Valid values: • true: enables auto-renewal. • false: does not enable auto-renewal.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags property

Field	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 64 characters in length, and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- LoadBalancerId: the ID of the SLB instance.
- NetworkType: the network type of the SLB instance.
- AddressType: the IP address type of the SLB instance.

- IpAddress: the IP address of the SLB instance.
- OrderId: the order ID.
- Bandwidth: the maximum bandwidth of the Internet-facing SLB instance.
- PayType: the billing method of the SLB instance.
- AddressIPVersion: the IP address version of the SLB instance.
- SlaveZoneId: the secondary zone ID of the SLB instance.
- MasterZoneId: the primary zone ID of the SLB instance.
- LoadBalancerName: the name of the SLB instance.
- ResourceGroupId: the ID of the resource group.
- LoadBalancerSpec: the specification of the SLB instance.
- VpcId: the VPC ID of the SLB instance.
- VSwitchId: the vSwitch ID of the SLB instance.

Examples

`JSON` format

```
{
  "Parameters": {
    "AutoRenewPeriod": {
      "Type": "Number",
      "Description": "Automatic renewal cycle, which takes effect when AutoRenew is true, and is required:\nWhen PricingCycle = month, the value range is 1-9\nWhen PeriodUnit = year, the value range is 1-3",
      "MinValue": 1,
      "MaxValue": 9
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "Optional. The duration of the Subscription-billed Internet instance to be created.\nValid values: month | year.",
      "AllowedValues": [
        "month",
        "year",
        "Month",
        "Year"
      ]
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The VSwitch id to create load balancer instance. For VPC network only."
    },
    "AutoRenew": {
      "Type": "Boolean",
      "Description": "Indicates whether automatic renewal is enabled for the instance. Valid values:true: Automatic renewal is enabled.false: Automatic renewal is not enabled. You must renew the instance manually.Default value: false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "AddressIPVersion": {
      "Type": "String",
      "Description": "IP version, support 'ipv4' or 'ipv6'. If 'ipv6' is selected, please note that the zone and the specification are supported.",
      "AllowedValues": [
        "ipv4",
        "ipv6"
      ]
    },
    "Duration": {
      "Type": "Number",
      "Description": "Optional. The subscription duration of a Subscription Internet instance.\nValid values:\nIf PricingCycle is month, the valid range is 1 to 9 or 12, 24, 36, 48, 60.\nIf PricingCycle is year, the value range is 1 to 5.",
      "AllowedValues": [
        1,
```

```
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36,
        48,
        60
      ]
    },
    "DeletionProtection": {
      "Type": "Boolean",
      "Description": "Whether to enable deletion protection.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Optional. Indicates whether to automatically pay the bill for the Subscription-billed Internet instance t
o be created.\nValid values: true | false (default value)",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "PayType": {
      "Type": "String",
      "Description": "Optional. The billing method of the instance to be created.\nValid value: PayOnDemand (Pay-As-You-Go) | P
rePay (Subscription)",
      "AllowedValues": [
        "Subscription",
        "PrePaid",
        "PrePay",
        "Prepaid",
        "PayAsYouGo",
        "PostPaid",
        "PayOnDemand",
        "Postpaid"
      ]
    },
    "SlaveZoneId": {
      "Type": "String",
      "Description": "The slave zone id to create load balancer instance."
    },
    "ModificationProtectionStatus": {
      "Type": "String",
      "Description": "NonProtection or empty: means no restriction on modification protection\nConsoleProtection: Modify instan
ce protection status by console\nDefault value is empty.",
      "AllowedValues": [
        "NonProtection",
        "ConsoleProtection"
      ]
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "Instance internet access charge type.Support 'paybybandwidth' and 'paybytraffic' only. Default is 'paybyt
raffic'. If load balancer is created in VPC, the charge type will be set as 'paybytraffic' by default.",
      "AllowedValues": [
        "paybytraffic",
        "PayByTraffic",
        "paybybandwidth",
```

```
        "PayByBandwidth"
      ],
      "Default": "paybytraffic"
    },
    "LoadBalancerSpec": {
      "Type": "String",
      "Description": "The specification of the Server Load Balancer instance. Allowed value: slb.s1.small|slb.s2.small|slb.s2.m
edium|slb.s3.small|slb.s3.medium|slb.s3.large|slb.s3.xlarge|slb.s3.xxlarge. Default value: slb.s1.small. The supported performa
nce specification in each region is different, two specifications are supported in the US East 1 region. If the region does not
support the performance-guaranteed instances, the value will not take effect."
    },
    "LoadBalancerName": {
      "Type": "String",
      "Description": "Name of created load balancer. Length is limited to 1-80 characters, allowed to contain letters, numbers,
'-, /, _,.' When not specified, a default name will be assigned."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create load balancer instance. For VPC network only."
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "The bandwidth for network, unit in Mbps(Mega bit per second). Range is 1 to 1000, default is 1. If Intern
etChargeType is specified as \"paybytraffic\", this property will be ignore and please specify the \"Bandwidth\" in ALIYUN::SLB
::Listener.",
      "Default": 1
    },
    "ModificationProtectionReason": {
      "Type": "String",
      "Description": "Set the reason for modifying the protection status. The length is 1-80 English or Chinese characters, mus
t start with upper and lower letters or Chinese, and can include numbers, periods (.), underscores (_) and dashes (-).\nOnly va
lid when ModificationProtectionStatus is ConsoleProtection.",
      "MaxLength": 80
    },
    "AddressType": {
      "Type": "String",
      "Description": "Loader balancer address type. Support 'internet' and 'intranet' only, default is 'internet'.",
      "AllowedValues": [
        "internet",
        "intranet"
      ],
      "Default": "internet"
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to slb. Max support 5 tags to add during create slb. Each tag with two properties Key and
Value, and Key is required.",
      "MaxLength": 5
    },
    "MasterZoneId": {
      "Type": "String",
      "Description": "The master zone id to create load balancer instance."
    }
  },
  "ROSTemplateFormatVersion": "2015-09-01",
  "Outputs": {
    "ResourceGroupId": {
      "Description": "Resource group id.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "ResourceGroupId"
        ]
      }
    },
    "AddressIPVersion": {
      "Description": "IP version",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "AddressIPVersion"
        ]
      }
    },
```

```
    "VSwitchId": {
      "Description": "VSwitch id",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "VSwitchId"
        ]
      }
    },
    "LoadBalancerId": {
      "Description": "The id of load balance created.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "LoadBalancerId"
        ]
      }
    },
    "PayType": {
      "Description": "The billing method of the instance to be created.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "PayType"
        ]
      }
    },
    "OrderId": {
      "Description": "The order ID.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "OrderId"
        ]
      }
    },
    "SlaveZoneId": {
      "Description": "The slave zone id to create load balancer instance.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "SlaveZoneId"
        ]
      }
    },
    "LoadBalancerSpec": {
      "Description": "The specification of the Server Load Balancer instance",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "LoadBalancerSpec"
        ]
      }
    },
    "LoadBalancerName": {
      "Description": "Name of created load balancer.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "LoadBalancerName"
        ]
      }
    },
    "VpcId": {
      "Description": "Vpc id",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "VpcId"
        ]
      }
    },
    "NetworkType": {
      "Description": "The network type of the load balancer. \"vpc\" or \"classic\" network.",
```

```
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "NetworkType"
        ]
      }
    },
    "Bandwidth": {
      "Description": "The bandwidth for network",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "Bandwidth"
        ]
      }
    },
    "IpAddress": {
      "Description": "The ip address of the load balancer.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "IpAddress"
        ]
      }
    },
    "AddressType": {
      "Description": "The address type of the load balancer. \"intranet\" or \"internet\".",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "AddressType"
        ]
      }
    },
    "MasterZoneId": {
      "Description": "The master zone id to create load balancer instance.",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalance",
          "MasterZoneId"
        ]
      }
    }
  },
  "Resources": {
    "LoadBalance": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "AutoRenewPeriod": {
          "Ref": "AutoRenewPeriod"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "AutoRenew": {
          "Ref": "AutoRenew"
        },
        "AddressIPVersion": {
          "Ref": "AddressIPVersion"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "DeletionProtection": {
          "Ref": "DeletionProtection"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        }
```

```
        },
        "PayType": {
          "Ref": "PayType"
        },
        "SlaveZoneId": {
          "Ref": "SlaveZoneId"
        },
        "ModificationProtectionStatus": {
          "Ref": "ModificationProtectionStatus"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "LoadBalancerSpec": {
          "Ref": "LoadBalancerSpec"
        },
        "LoadBalancerName": {
          "Ref": "LoadBalancerName"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "ModificationProtectionReason": {
          "Ref": "ModificationProtectionReason"
        },
        "AddressType": {
          "Ref": "AddressType"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "MasterZoneId": {
          "Ref": "MasterZoneId"
        }
      }
    }
  }
}
```

`YAML` format

```
Parameters:
  AutoRenewPeriod:
    Type: Number
    Description: >-
      Automatic renewal cycle, which takes effect when AutoRenew is true, and is
      required:
      When PricingCycle = month, the value range is 1-9
      When PeriodUnit = year, the value range is 1-3
    MinValue: 1
    MaxValue: 9
  ResourceGroupId:
    Type: String
    Description: Resource group id.
  PricingCycle:
    Type: String
    Description: >-
      Optional. The duration of the Subscription-billed Internet instance to be
      created.
      Valid values: month | year.
    AllowedValues:
      - month
      - year
      - Month
      - Year
  VSwitchId:
    Type: String
    Description: The VSwitch id to create load balancer instance. For VPC network only.
  AutoRenew:
    Type: Boolean
    Description: >-
```

```
      Indicates whether automatic renewal is enabled for the instance. Valid
      values:true: Automatic renewal is enabled.false: Automatic renewal is not
      enabled. You must renew the instance manually.Default value: false.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  AddressIPVersion:
    Type: String
    Description: >-
      IP version, support 'ipv4' or 'ipv6'. If 'ipv6' is selected, please note
      that the zone and the specification are supported.
    AllowedValues:
      - ipv4
      - ipv6
  Duration:
    Type: Number
    Description: |-
      Optional. The subscription duration of a Subscription Internet instance.
      Valid values:
      If PricingCycle is month, the valid range is 1 to 9 or 12, 24, 36, 48, 60.
      If PricingCycle is year, the value range is 1 to 5.
    AllowedValues:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 12
      - 24
      - 36
      - 48
      - 60
  DeletionProtection:
    Type: Boolean
    Description: Whether to enable deletion protection.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
  AutoPay:
    Type: Boolean
    Description: >-
      Optional. Indicates whether to automatically pay the bill for the
      Subscription-billed Internet instance to be created.
      Valid values: true | false (default value)
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
  PayType:
    Type: String
    Description: |-
      Optional. The billing method of the instance to be created.
      Valid value: PayOnDemand (Pay-As-You-Go) | PrePay (Subscription)
    AllowedValues:
      - Subscription
      - PrePaid
      - PrePay
      - Prepaid
      - PayAsYouGo
      - PostPaid
      - PayOnDemand
      - Postpaid
  SlaveZoneId:
```

```
    Type: String
    Description: The slave zone id to create load balancer instance.
  ModificationProtectionStatus:
    Type: String
    Description: |-
      NonProtection or empty: means no restriction on modification protection
      ConsoleProtection: Modify instance protection status by console
      Default value is empty.
    AllowedValues:
      - NonProtection
      - ConsoleProtection
  InternetChargeType:
    Type: String
    Description: >-
      Instance internet access charge type.Support 'paybybandwidth' and
      'paybytraffic' only. Default is 'paybytraffic'. If load balancer is
      created in VPC, the charge type will be set as 'paybytraffic' by default.
    AllowedValues:
      - paybytraffic
      - PayByTraffic
      - paybybandwidth
      - PayByBandwidth
    Default: paybytraffic
  LoadBalancerSpec:
    Type: String
    Description: >-
      The specification of the Server Load Balancer instance. Allowed value:
      slb.s1.small|slb.s2.small|slb.s2.medium|slb.s3.small|slb.s3.medium|slb.s3.large|slb.s3.xlarge|slb.s3.xxlarge.
      Default value: slb.s1.small. The supported performance specification in
      each region is different, two specifications are supported in the US East
      1 region. If the region does not support the performance-guaranteed
      instances, the value will not take effect.
  LoadBalancerName:
    Type: String
    Description: >-
      Name of created load balancer. Length is limited to 1-80 characters,
      allowed to contain letters, numbers, '-, /, _,.' When not specified, a
      default name will be assigned.
  VpcId:
    Type: String
    Description: The VPC id to create load balancer instance. For VPC network only.
  Bandwidth:
    Type: Number
    Description: >-
      The bandwidth for network, unit in Mbps(Mega bit per second). Range is 1
      to 1000, default is 1. If InternetChargeType is specified as
      "paybytraffic", this property will be ignore and please specify the
      "Bandwidth" in ALIYUN::SLB::Listener.
    Default: 1
  ModificationProtectionReason:
    Type: String
    Description: >-
      Set the reason for modifying the protection status. The length is 1-80
      English or Chinese characters, must start with upper and lower letters or
      Chinese, and can include numbers, periods (.), underscores (_) and dashes
      (-).
      Only valid when ModificationProtectionStatus is ConsoleProtection.
    MaxLength: 80
  AddressType:
    Type: String
    Description: >-
      Loader balancer address type. Support 'internet' and 'intranet' only,
      default is 'internet'.
    AllowedValues:
      - internet
      - intranet
    Default: internet
  Tags:
    Type: Json
    Description: >-
      Tags to attach to slb. Max support 5 tags to add during create slb. Each
      tag with two properties Key and Value, and Key is required.
    MaxLength: 5
  MasterZoneId:
```

```
    Type: String
    Description: The master zone id to create load balancer instance.
ROSTemplateFormatVersion: '2015-09-01'
Outputs:
  ResourceGroupId:
    Description: Resource group id.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - ResourceGroupId
  AddressIPVersion:
    Description: IP version
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - AddressIPVersion
  VSwitchId:
    Description: VSwitch id
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - VSwitchId
  LoadBalancerId:
    Description: The id of load balance created.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - LoadBalancerId
  PayType:
    Description: The billing method of the instance to be created.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - PayType
  OrderId:
    Description: The order ID.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - OrderId
  SlaveZoneId:
    Description: The slave zone id to create load balancer instance.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - SlaveZoneId
  LoadBalancerSpec:
    Description: The specification of the Server Load Balancer instance
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - LoadBalancerSpec
  LoadBalancerName:
    Description: Name of created load balancer.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - LoadBalancerName
  VpcId:
    Description: Vpc id
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - VpcId
  NetworkType:
    Description: The network type of the load balancer. "vpc" or "classic" network.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - NetworkType
  Bandwidth:
    Description: The bandwidth for network
    Value:
      'Fn::GetAtt':
        - LoadBalance
```

```
        - LoadBalance
        - Bandwidth
  IpAddress:
    Description: The ip address of the load balancer.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - IpAddress
  AddressType:
    Description: The address type of the load balancer. "intranet" or "internet".
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - AddressType
  MasterZoneId:
    Description: The master zone id to create load balancer instance.
    Value:
      'Fn::GetAtt':
        - LoadBalance
        - MasterZoneId
Resources:
  LoadBalance:
    Type: 'ALIYUN::SLB::LoadBalancer'
    Properties:
      AutoRenewPeriod:
        Ref: AutoRenewPeriod
      ResourceGroupId:
        Ref: ResourceGroupId
      PricingCycle:
        Ref: PricingCycle
      VSwitchId:
        Ref: VSwitchId
      AutoRenew:
        Ref: AutoRenew
      AddressIPVersion:
        Ref: AddressIPVersion
      Duration:
        Ref: Duration
      DeletionProtection:
        Ref: DeletionProtection
      AutoPay:
        Ref: AutoPay
      PayType:
        Ref: PayType
      SlaveZoneId:
        Ref: SlaveZoneId
      ModificationProtectionStatus:
        Ref: ModificationProtectionStatus
      InternetChargeType:
        Ref: InternetChargeType
      LoadBalancerSpec:
        Ref: LoadBalancerSpec
      LoadBalancerName:
        Ref: LoadBalancerName
      VpcId:
        Ref: VpcId
      Bandwidth:
        Ref: Bandwidth
      ModificationProtectionReason:
        Ref: ModificationProtectionReason
      AddressType:
        Ref: AddressType
      Tags:
        Ref: Tags
      MasterZoneId:
        Ref: MasterZoneId
```

To view more examples, visit BackendServerAttachment.json and BackendServerAttachment.yml. In the examples, the ALIYUN::SLB::LoadBalancer, ALIYUN::SLB::MasterSlaveServerGroup, and ALIYUN::SLB::BackendServerAttachment resource types are involved.

64.8. ALIYUN::SLB::LoadBalancerClone

ALIYUN::SLB::LoadBalancerClone is used to clone an SLB instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::LoadBalancerClone",
  "Properties": {
    "Tags": List,
    "ResourceGroupId": String,
    "VSwitchId": String,
    "LoadBalancerName": String,
    "SourceLoadBalancerId": String,
    "TagsPolicy": String,
    "BackendServersPolicy": String,
    "BackendServers": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ResourceGroupId	String	No	No	The ID of the resource group to which the SLB instance belongs.	None.
VSwitchId	String	No	No	The ID of the vSwitch.	The vSwitch must be in the same VPC as the source SLB instance. If you do not specify this parameter, the vSwitch of the source SLB instance is used.
SourceLoadBalancerId	String	Yes	No	The ID of the SLB instance to be cloned.	None.

Property	Type	Required	Editable	Description	Constraint
BackendServersPolicy	String	No	No	The clone policy, which specifies the ECS instances listened by the new SLB instance and the weight of each ECS instance.	Default value: clone. Valid values: • clone: The ECS instances listened by the source SLB instance and the weight of each ECS instance are cloned to the new SLB instance. • empty: No ECS instances are attached to the new SLB instance. • append: The ECS instances listened by the source SLB instance and the weight of each ECS instance are cloned to the new SLB instance. New ECS instances that have weights specified are also attached to the new SLB instance. • replace: New ECS instances that have weights specified are attached to the new SLB instance. However, the ECS instances listened by the source SLB instance and the weight of each ECS instance are not cloned to the new SLB instance.
BackendServers	List	No	Yes	The list of new ECS instances to be listened.	For more information, see BackendServers properties.
LoadBalancerName	String	No	No	The name of the new SLB instance.	You can customize the instance name. The name must be 1 to 80 characters in length, and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), and underscores (_).
Tags	List	No	Yes	The list of tags to be bound to the SLB instance.	Tags must be specified as key-value pairs. A maximum of five tags can be specified. For more information, see Tags properties.

Property	Type	Required	Editable	Description	Constraint
TagsPolicy	String	No	No	The policy for handling tags.	Default value: empty. Valid values: • clone: The tags of the source SLB instance are used. • empty: No tags are configured. • append: The tags of the source SLB instance are reserved while new tags are added. • replace: The tags of the source SLB instance are deleted while new tags are added.

BackendServers syntax

```
"BackendServers": [
  {
    "Type": String,
    "ServerId": String,
    "Description": String,
    "ServerIp": String,
    "Weight": Integer
  }
]
```

BackendServers properties

Property	Type	Required	Editable	Description	Constraint
ServerId	String	Yes	Yes	The ID of the backend server.	Only ECS instances in the running state can be attached to the SLB instance as backend servers. A maximum of 20 backend servers can be attached each time. You can specify elastic network interfaces (ENIs) as the backend servers for only guaranteed-performance SLB instances.
Weight	Integer	Yes	Yes	The weight of the ECS instance to be attached to the SLB instance.	Valid values: 0 to 100. Default value: 100.
ServerIp	String	No	No	The IP address of the backend server.	None.
Type	String	No	No	The type of the backend server.	Default value: ecs. Valid values: • ecs: ECS instance • eni: ENI • eci: Elastic Container Instance (ECI)

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the backend server.	The description must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), periods (.), and underscores (_).

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot start with `acs:` or `aliyun`. It cannot contain `http://` or `https://`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot start with `acs:` or `aliyun`. It cannot contain `http://` or `https://`.

Response parameters

Fn::GetAtt

LoadBalancerId: the ID of the new SLB instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LoadBalancerName": {
      "Type": "String",
      "Description": "Name of created load balancer. Length is limited to 1-80 characters, allowed to contain letters, numbers,
'-, /, _,.' When not specified, a default name will be assigned."
    },
    "SourceLoadBalancerId": {
      "Type": "String",
      "Description": "Source load balancer id to clone"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
    "TagsPolicy": {
      "Type": "String",
      "Description": "Solution for handle the tags. If select 'clone', it will clone from source load balancer. If select 'empt
y' it will not coppy tags. If select 'append' it will append the new tags. If select 'replace' it will add new tags.\nDefault i
s 'empty'. ",
      "AllowedValues": [
```

```
        "clone",
        "empty",
        "append",
        "replace"
      ],
      "Default": "empty"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The new vSwitch ID to create load balancer instance. For VPC network only and the vSwitch should belong t
o the VPC which source load balancer is located. When not specified, source load balancer VSwitch ID will be used."
    },
    "BackendServers": {
      "Type": "Json",
      "Description": "The list of ECS instance, which will attached to load balancer."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to slb. Max support 5 tags to add during create slb. Each tag with two properties Key and
Value, and Key is required.",
      "MaxLength": 5
    },
    "BackendServersPolicy": {
      "Type": "String",
      "Description": "Solution for handle the backend server and weights. If select 'clone', it will clone from source load bal
ancer. If select 'empty' it will not attach any backend servers. If select 'append' it will append the new backend server list
to source backed servers. If select 'replace' it will only attach new backend server list. Default is 'clone'. ",
      "AllowedValues": [
        "clone",
        "empty",
        "append",
        "replace"
      ],
      "Default": "clone"
    }
  },
  "Resources": {
    "LoadBalancerClone": {
      "Type": "ALIYUN::SLB::LoadBalancerClone",
      "Properties": {
        "LoadBalancerName": {
          "Ref": "LoadBalancerName"
        },
        "SourceLoadBalancerId": {
          "Ref": "SourceLoadBalancerId"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "TagsPolicy": {
          "Ref": "TagsPolicy"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "BackendServers": {
          "Ref": "BackendServers"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "BackendServersPolicy": {
          "Ref": "BackendServersPolicy"
        }
      }
    }
  },
  "Outputs": {
    "LoadBalancerId": {
      "Description": "The id of load balance generated",
      "Value": {
        "Fn::GetAtt": [
          "LoadBalancerClone",
          "LoadBalancerId"
```

```
        ]
      }
    }
  }
}
```

YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  LoadBalancerName:
    Type: String
    Description: >-
      Name of created load balancer. Length is limited to 1-80 characters,
      allowed to contain letters, numbers, '-, /, _,.' When not specified, a
      default name will be assigned.
  SourceLoadBalancerId:
    Type: String
    Description: Source load balancer id to clone
  ResourceGroupId:
    Type: String
    Description: Resource group id.
  TagsPolicy:
    Type: String
    Description: >-
      Solution for handle the tags. If select 'clone', it will clone from source
      load balancer. If select 'empty' it will not coppy tags. If select
      'append' it will append the new tags. If select 'replace' it will add new
      tags.
      Default is 'empty'.
    AllowedValues:
      - clone
      - empty
      - append
      - replace
    Default: empty
  VSwitchId:
    Type: String
    Description: >-
      The new vSwitch ID to create load balancer instance. For VPC network only
      and the vSwitch should belong to the VPC which source load balancer is
      located. When not specified, source load balancer vSwitch ID will be used.
  BackendServers:
    Type: Json
    Description: 'The list of ECS instance, which will attached to load balancer.'
  Tags:
    Type: Json
    Description: >-
      Tags to attach to slb. Max support 5 tags to add during create slb. Each
      tag with two properties Key and Value, and Key is required.
    MaxLength: 5
  BackendServersPolicy:
    Type: String
    Description: >-
      Solution for handle the backend server and weights. If select 'clone', it
      will clone from source load balancer. If select 'empty' it will not attach
      any backend servers. If select 'append' it will append the new backend
      server list to source backed servers. If select 'replace' it will only
      attach new backend server list. Default is 'clone'.
    AllowedValues:
      - clone
      - empty
      - append
      - replace
    Default: clone
Resources:
  LoadBalancerClone:
    Type: 'ALIYUN::SLB::LoadBalancerClone'
    Properties:
      LoadBalancerName:
        Ref: LoadBalancerName
      SourceLoadBalancerId:
        Ref: SourceLoadBalancerId
      ResourceGroupId:
```

```
        Ref: ResourceGroupId
      TagsPolicy:
        Ref: TagsPolicy
      VSwitchId:
        Ref: VSwitchId
      BackendServers:
        Ref: BackendServers
      Tags:
        Ref: Tags
      BackendServersPolicy:
        Ref: BackendServersPolicy
Outputs:
  LoadBalancerId:
    Description: The id of load balance generated
    Value:
      'Fn::GetAtt':
        - LoadBalancerClone
        - LoadBalancerId
```

64.9. ALIYUN::SLB::MasterSlaveServerGroup

ALIYUN::SLB::MasterSlaveServerGroup is used to create a primary/secondary server group.

Notice A primary/secondary server group contains only two ECS instances: a primary server and a secondary server.

Syntax

```
{
  "Type": "ALIYUN::SLB::MasterSlaveServerGroup",
  "Properties": {
    "MasterSlaveServerGroupName": String,
    "MasterSlaveBackendServers": List,
    "LoadBalancerId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
MasterSlaveServerGroupName	String	No	No	The name of the primary/secondary server group.	None
MasterSlaveBackendServers	List	Yes	No	The list of backend servers in the primary/secondary server group.	A primary/secondary server group can contain a maximum of two backend servers. If you do not specify this parameter, an empty primary/secondary server group is created.
LoadBalancerId	String	Yes	No	The ID of the SLB instance.	None

MasterSlaveBackendServers syntax

```
"MasterSlaveBackendServers": [
  {
    "ServerId": String,
    "Port": Integer,
    "Weight": Integer,
    "ServerType": String
  }
]
```

MasterSlaveBackendServers properties

Name	Type	Required	Editable	Description	Validity
ServerId	String	Yes	No	The ID of the ECS instance or Elastic Network Interface (ENI) to be added.	None
ServerType	String	No	No	The type of the backend server.	Valid values: Master and Slave. Default value: Master.
Port	Integer	Yes	No	The port used by the backend server.	Valid values: 1 to 65535.
Weight	Integer	Yes	No	The weight of the backend server.	Valid values: 0 to 100.

Response parameters

Fn::GetAtt

- MasterSlaveServerGroupId: the ID of the primary/secondary server group.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MasterSlaveServerGroup": {
      "Type": "ALIYUN::SLB::MasterSlaveServerGroup",
      "Properties": {
        "MasterSlaveServerGroupName": "Group1",
        "MasterSlaveBackendServers": [
          {
            "ServerId": "vm-233",
            "Port": "80",
            "Weight": "100",
            "ServerType": "Master"
          },
          {
            "ServerId": "vm-232",
            "Port": "90",
            "Weight": "100",
            "ServerType": "Slave"
          }
        ],
        "LoadBalancerId": "lb-bp1hv944r69al4j9j****"
      }
    }
  },
  "Outputs": {
    "MasterSlaveServerGroupId": {
      "Value": {
        "Fn::GetAtt": [
          "MasterSlaveServerGroup",
          "MasterSlaveServerGroupId"
        ]
      }
    }
  }
}
```

64.10. ALIYUN::SLB::Rule

ALIYUN::SLB::Rule is used to add forwarding rules for a specified HTTP or HTTPS listener.

Syntax

```
{
  "Type": "ALIYUN::SLB::Rule",
  "Properties": {
    "ListenerPort": Integer,
    "RuleList": List,
    "LoadBalancerId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ListenerPort	Integer	Yes	No	The frontend listener port number used by the SLB instance.	Valid values: 1 to 65535.
RuleList	List	Yes	No	The list of forwarding rules to be added.	A maximum of 10 forwarding rules can be added at a time. Each forwarding rule contains the following parameters: • RuleName • Domain • Url • VServerGroupId You must specify at least one of the Domain and URL parameters. The value combination specified by the Domain and URL parameters must be unique in a listener.
LoadBalancerId	String	Yes	No	The ID of the SLB instance.	None.

RuleList syntax

```
"RuleList": [
  {
    "Url": String,
    "Domain": String,
    "VServerGroupId": String,
    "RuleName": String
  }
]
```

RuleList properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
Url	String	No	No	The request URL.	• The URL must be 2 to 80 characters in length. • It must start with a forward slash (/) and can contain letters, digits, and the following special characters: `- / . % ? # &`
Domain	String	No	No	The request domain name associated with the forwarding rule.	None.
VServerGroupId	String	Yes	No	The ID of the destination VServer group specified in the forwarding rule.	None.
RuleName	String	Yes	No	The name of the forwarding rule.	The name must be 1 to 40 characters in length and can contain letters, digits, and the following special characters: `- / . _` Forwarding rule names must be unique within each listener.

Response parameters

Fn::GetAtt

Rules: the list of forwarding rules.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Rule": {
      "Type": "ALIYUN::SLB::Rule",
      "Properties": {
        "ListenerPort": {
          "Ref": "ListenerPort"
        },
        "RuleList": {
          "Fn::Split": [",", {
            "Ref": "RuleList"
          }, {
            "Ref": "RuleList"
          }]
        },
        "LoadBalancerId": {
          "Ref": "LoadBalancerId"
        }
      }
    }
  },
  "Parameters": {
    "ListenerPort": {
      "Type": "Number",
      "Description": "The front-end HTTPS listener port of the Server Load Balancer instance. Valid value:\n1-65535",
      "MaxValue": 65535,
      "MinValue": 1
    },
    "RuleList": {
      "MinLength": 1,
      "Type": "CommaDelimitedList",
      "Description": "The forwarding rules to add.",
      "MaxLength": 10
    },
    "LoadBalancerId": {
      "Type": "String",
      "Description": "The ID of Server Load Balancer instance."
    }
  },
  "Outputs": {
    "Rules": {
      "Description": "A list of forwarding rules. Each element of rules contains \"RuleId\".",
      "Value": {
        "Fn::GetAtt": ["Rule", "Rules"]
      }
    }
  }
}
```

64.11. ALIYUN::SLB::VServerGroup

ALIYUN::SLB::VServerGroup is used to create a vServer group and attach backend servers to a Server Load Balancer (SLB) instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::VServerGroup",
  "Properties": {
    "VServerGroupName": String,
    "BackendServers": List,
    "LoadBalancerId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VServerGroupName	String	Yes	No	The name of the vServer group.	None

Property	Type	Required	Editable	Description	Constraint
BackendServers	List	No	Yes	The list of backend servers.	You can attach a maximum of 20 Elastic Compute Service (ECS) instances. For more information, see BackendServers properties.
LoadBalancerId	String	Yes	No	The ID of the SLB instance.	None

BackendServers syntax

```
"BackendServers": [
  {
    "ServerId": String,
    "Port": Integer,
    "Weight": Integer,
    "Type": String,
    "Description": String,
    "ServerIp": String
  }
]
```

BackendServers properties

Property	Type	Required	Editable	Description	Constraint
ServerId	String	Yes	Yes	The ID of the backend server.	None
Port	Integer	Yes	Yes	The port that is used by the backend server.	Valid values: 1 to 65535.
Weight	Integer	No	Yes	The weight of the backend server.	Valid values: 0 to 100.
Type	String	No	Yes	The type of the backend server.	Default value: ecs. Valid values: • ecs: ECS instances • eni: elastic network interfaces (ENIs)
Description	String	No	Yes	The description of the backend server.	The description must be 1 to 80 characters in length and can contain letters, digits, hyphens (-), forward slashes (/), periods (.),and underscores (_).
ServerIp	String	No	Yes	The IP address of the backend server.	The IP addresses of ECS instances or ENIs are supported.

Response parameters

Fn::GetAtt

- VServerGroupId: the ID of the vServer group.
- BackendServers: the list of backend servers attached to the SLB instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VServerGroupName": {
      "Type": "String",
      "Description": "Display name of the VServerGroup."
    },
    "LoadBalancerId": {
      "Type": "String",
      "Description": "The id of load balancer."
    },
    "BackendServers": {
      "Type": "Json",
      "Description": "The list of a combination of ECS Instance-Port-Weight.Same ecs instance with different port is allowed, b
ut same ecs instance with same port isn't."
    }
  },
  "Resources": {
    "VServerGroup": {
      "Type": "ALIYUN::SLB::VServerGroup",
      "Properties": {
        "VServerGroupName": {
          "Ref": "VServerGroupName"
        },
        "LoadBalancerId": {
          "Ref": "LoadBalancerId"
        },
        "BackendServers": {
          "Ref": "BackendServers"
        }
      }
    }
  },
  "Outputs": {
    "VServerGroupId": {
      "Description": "The id of VServerGroup created.",
      "Value": {
        "Fn::GetAtt": [
          "VServerGroup",
          "VServerGroupId"
        ]
      }
    },
    "BackendServers": {
      "Description": "Backend server list in this VServerGroup.",
      "Value": {
        "Fn::GetAtt": [
          "VServerGroup",
          "BackendServers"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  VServerGroupName:
    Type: String
    Description: Display name of the VServerGroup.
  LoadBalancerId:
    Type: String
    Description: The id of load balancer.
  BackendServers:
    Type: Json
    Description: >-
      The list of a combination of ECS Instance-Port-Weight.Same ecs instance
      with different port is allowed, but same ecs instance with same port
      isn't.
Resources:
  VServerGroup:
    Type: 'ALIYUN::SLB::VServerGroup'
    Properties:
      VServerGroupName:
        Ref: VServerGroupName
      LoadBalancerId:
        Ref: LoadBalancerId
      BackendServers:
        Ref: BackendServers
Outputs:
  VServerGroupId:
    Description: The id of VServerGroup created.
    Value:
      'Fn::GetAtt':
        - VServerGroup
        - VServerGroupId
  BackendServers:
    Description: Backend server list in this VServerGroup.
    Value:
      'Fn::GetAtt':
        - VServerGroup
        - BackendServers
```

To view more examples, visit Listener.json and Listener.yml. In the examples, the ALIYUN::SLB::Listener, ALIYUN::SLB::LoadBalancerClone, ALIYUN::SLB::Certificate, ALIYUN::SLB::DomainExtension, ALIYUN::SLB::VServerGroup, ALIYUN::SLB::Rule, and ALIYUN::SLB::BackendServerToVServerGroupAddition resource types are involved.

65.SLS

65.1. ALIYUN::SLS::ApplyConfigToMachineGroup

ALIYUN::SLS::ApplyConfigToMachineGroup is used to apply Log Service configurations to machine groups.

Syntax

```
{
  "Type": "ALIYUN::SLS::ApplyConfigToMachineGroup",
  "Properties": {
    "ProjectName": String,
    "ConfigName": String,
    "GroupName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
ProjectName	String	No	No	The name of the Log Service project that contains the log configuration to be applied.	The name can be up to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-).
ConfigName	String	No	No	The name of the log configuration to be applied to a machine group.	The name can be up to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-).
GroupName	String	No	No	The name of the machine group.	The name can be up to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-).

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ApplyConfigToMachineGroup": {
      "Type": "ALIYUN::SLS::ApplyConfigToMachineGroup",
      "Properties": {
        "ProjectName": "rostest-beijing",
        "ConfigName": "rostest-conf",
        "GroupName": "machine-group-test1"
      }
    }
  }
}
```

65.2. ALIYUN::SLS::Audit

ALIYUN::SLS::Audit is used to configure Log Audit Service.

Note For more information about Log Audit Service, see Overview of Log Audit Service.

Syntax

```
{
  "Type": "ALIYUN::SLS::Audit",
  "Properties": {
    "VariableMap": Map,
    "DisplayName": String,
    "MultiAccount": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VariableMap	Map	Yes	Yes	The detailed configuration of Log Audit Service.	For more information, see VariableMap properties.
DisplayName	String	Yes	No	The display name of Log Audit Service.	The name can be up to 128 characters in length.
MultiAccount	List	No	Yes	The Alibaba Cloud accounts for which you want to configure Log Audit Service.	You must separate multiple Alibaba Cloud account IDs with commas (,). You can specify up to 100 Alibaba Cloud accounts.

VariableMap syntax

```
"VariableMap": {
  "ApigatewayTtl": Number,
  "SasCrackEnabled": Boolean,
  "CpsEnabled": Boolean,
  "ApigatewayEnabled": Boolean,
  "WafEnabled": Boolean,
  "OssSyncTtl": Number,
  "SasTtl": Number,
  "ActiontrailTtl": Number,
  "OssAccessEnabled": Boolean,
  "OssSyncEnabled": Boolean,
  "SasSnapshotAccountEnabled": Boolean,
  "SlbSyncEnabled": Boolean,
  "SlbAccessTtl": Number,
  "BastionEnabled": Boolean,
  "RdsEnabled": Boolean,
  "SasSessionEnabled": Boolean,
  "SasLocalDnsEnabled": Boolean,
  "OssAccessTtl": Number,
  "SasHttpEnabled": Boolean,
  "BastionTtl": Number,
  "OssMeteringEnabled": Boolean,
  "SasProcessEnabled": Boolean,
  "NasEnabled": Boolean,
  "SasDnsEnabled": Boolean,
  "SasSnapshotPortEnabled": Boolean,
  "SasSecurityAlertEnabled": Boolean,
  "SlbAccessEnabled": Boolean,
  "NasTtl": Number,
  "SasNetworkEnabled": Boolean,
  "SasLoginEnabled": Boolean,
  "WafTtl": Number,
  "OssMeteringTtl": Number,
  "SasSnapshotProcessEnabled": Boolean,
  "SasSecurityHcEnabled": Boolean,
  "RdsTtl": Number,
  "CpsTtl": Number,
  "SlbSyncTtl": Number,
  "CloudfirewallTtl": Number,
```

```
"ActiontrailEnabled": Boolean,
"SasSecurityVulEnabled": Boolean,"ApigatewayTiEnabled": Boolean,
"RdsSlowCollectionPolicy": String,
"PolardbSlowCollectionPolicy": String,
"BastionAuditCollectionPolicy": String,
"DdosCooAccessPolicySetting": List,
"RdsAuditCollectionPolicy": String,
"ActiontrailOpenapiPolicySetting": List,
"BastionTiEnabled": Boolean,
"K8sIngressTiEnabled": Boolean,
"PolardbEnabled": Boolean,
"WafTiEnabled": Boolean,
"RedisSyncTtl": Number,
"OssAccessPolicySetting": List,
"AppconnectTiEnabled": Boolean,
"ApigatewayAccessPolicySetting": List,
"NasTiEnabled": Boolean,
"RdsPerfTiEnabled": Boolean,
"ActiontrailOpenapiCollectionPolicy": String,
"DrdsSyncTtl": Number,
"K8sEventEnabled": Boolean,
"RedisSyncEnabled": Boolean,
"PolardbPerfTiEnabled": Boolean,
"CpsTiEnabled": Boolean,
"CloudfirewallTiEnabled": Boolean,
"OssAccessTiEnabled": Boolean,
"PolardbSlowTiEnabled": Boolean,
"RedisAuditTtl": Number,
"RdsAuditPolicySetting": List,
"OssMeteringCollectionPolicy": String,
"ActiontrailTiEnabled": Boolean,
"SasTiEnabled": Boolean,
"DdosCooAccessTiEnabled": Boolean,
"WafAccessCollectionPolicy": String,
"CloudfirewallAccessPolicySetting": List,
"RedisAuditEnabled": Boolean,
"CpsCallbackPolicySetting": List,
"BastionAuditPolicySetting": List,
"PolardbSlowEnabled": Boolean,
"DrdsAuditEnabled": Boolean,
"PolardbTtl": Number,
"RdsPerfPolicySetting": List,
"K8sIngressTtl": Number,
"OssMeteringPolicySetting": List,
"K8sEventCollectionPolicy": String,
"DrdsAuditPolicySetting": List,
"WafAccessPolicySetting": List,
"CloudfirewallEnabled": Boolean,
"PolardbAuditPolicySetting": List,
"RedisAuditTiEnabled": Boolean,
"RedisAuditPolicySetting": List,
"SlbAccessPolicySetting": List,
"PolardbTiEnabled": Boolean,
"ApigatewayAccessCollectionPolicy": String,
"DrdsAuditTtl": Number,
"AppconnectEnabled": Boolean,
"DrdsSyncEnabled": Boolean,
"OssMeteringTiEnabled": Boolean,
"K8sAuditTiEnabled": Boolean,
"PolardbSlowTtl": Number,
"DrdsAuditCollectionPolicy": String,
"K8sAuditPolicySetting": List,
"K8sEventPolicySetting": List,
"RdsSlowTiEnabled": Boolean,
"K8sIngressPolicySetting": List,
"RedisAuditCollectionPolicy": String,
"PolardbPerfTtl": Number,
"AppconnectTtl": Number,
"DrdsAuditTiEnabled": Boolean,
"K8sAuditEnabled": Boolean,
"PolardbPerfPolicySetting": List,
"NasAuditPolicySetting": List,
"K8sEventTtl": Number,
"CpsCallbackCollectionPolicy": String,
```

```
  "PolardbAuditCollectionPolicy": String,
  "RdsPerfEnabled": Boolean,
  "RdsSlowEnabled": Boolean,
  "PolardbSlowPolicySetting": List,
  "DdosCooAccessTtl": Number,
  "PolardbPerfCollectionPolicy": String,
  "SlbAccessTiEnabled": Boolean,
  "PolardbPerfEnabled": Boolean,
  "AppconnectOpPolicySetting": List,
  "K8sEventTiEnabled": Boolean,
  "AppconnectOpCollectionPolicy": String,
  "NasAuditCollectionPolicy": String,
  "K8sAuditTtl": Number,
  "SlbAccessCollectionPolicy": String,
  "K8sIngressEnabled": Boolean,
  "K8sAuditCollectionPolicy": String,
  "RdsPerfTtl": Number,
  "OssAccessCollectionPolicy": String,
  "RdsSlowPolicySetting": List,
  "RdsSlowTtl": Number,
  "RdsPerfCollectionPolicy": String,
  "DdosCooAccessEnabled": Boolean,
  "DdosCooAccessCollectionPolicy": String,
  "CloudfirewallAccessCollectionPolicy": String,
  "RdsTiEnabled": Boolean,
  "K8sIngressCollectionPolicy": String
}
```

VariableMap properties

Property	Type	Required	Editable	Description	Constraint
ApigatewayTtl	Number	No	Yes	The period of time during which the access logs of API Gateway are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
SasCrackEnabled	Boolean	No	Yes	Specifies whether to audit the brute-force attack logs of Security Center (SAS).	Default value: false. Valid values: • true • false
CpsEnabled	Boolean	No	Yes	Specifies whether to audit the push receipt events of Alibaba Cloud Mobile Push.	Default value: true. Valid values: • true • false
ApigatewayEnabled	Boolean	No	Yes	Specifies whether to audit the access logs of API Gateway.	Default value: true. Valid values: • true • false
WafEnabled	Boolean	No	Yes	Specifies whether to audit the access logs of Web Application Firewall (WAF).	Default value: true. Valid values: • true • false
OssSyncTtl	Number	No	Yes	The period of time during which the Object Storage Service (OSS) logs are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days. For more information about centralized storage, see Benefits.

Property	Type	Required	Editable	Description	Constraint
SasTtl	Number	No	Yes	The period of time during which the SAS logs are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
ActiontrailTtl	Number	No	Yes	The period of time during which the operation logs of ActionTrail are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
OssAccessEnabled	Boolean	No	Yes	Specifies whether to audit the access logs of OSS.	Default value: true. Valid values: • true • false
OssSyncEnabled	Boolean	No	Yes	Specifies whether to synchronize the access logs of OSS to the central project.	Default value: true. Valid values: • true • false **Note** You can synchronize the collected logs to the central project. This improves efficiency when you query, analyze, and visualize the collected logs. You can also configure alerts and perform custom development for OSS.
SasSnapshotAccountEnabled	Boolean	No	Yes	Specifies whether to audit the account snapshots of SAS.	Default value: false. Valid values: • true • false
SlbSyncEnabled	Boolean	No	Yes	Specifies whether to synchronize the access logs of Server Load Balancer (SLB) to the central project.	Default value: true. Valid values: • true • false
SlbAccessTtl	Number	No	Yes	The period of time during which the access logs of SLB are stored in the Logstore of the regional project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
BastionEnabled	Boolean	No	Yes	Specifies whether to audit the operation logs of Bastionhost (BH).	Default value: true. Valid values: • true • false
RdsEnabled	Boolean	No	Yes	Specifies whether to audit the SQL audit logs of ApsaraDB RDS.	Default value: true. Valid values: • true • false
SasSessionEnabled	Boolean	No	Yes	Specifies whether to audit the network session logs of SAS.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
SasLocalDnsEnabled	Boolean	No	Yes	Specifies whether to audit the local Domain Name System (DNS) logs of SAS.	Default value: false. Valid values: • true • false
OssAccessTtl	Number	No	Yes	The period of time during which the access logs of OSS are stored in the Logstore of the regional project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
SasHttpEnabled	Boolean	No	Yes	Specifies whether to audit the web access logs of SAS.	Default value: false. Valid values: • true • false
BastionTtl	Number	No	Yes	The period of time during which the operation logs of BH are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
OssMeteringEnabled	Boolean	No	Yes	Specifies whether to audit the metering logs of OSS.	Default value: true. Valid values: • true • false
SasProcessEnabled	Boolean	No	Yes	Specifies whether to audit the process startup logs of SAS.	Default value: false. Valid values: • true • false
NasEnabled	Boolean	No	Yes	Specifies whether to audit the access logs of Apsara File Storage NAS (NAS).	Default value: true. Valid values: • true • false
SasDnsEnabled	Boolean	No	Yes	Specifies whether to audit the DNS logs of SAS.	Default value: false. Valid values: • true • false
SasSnapshotPortEnabled	Boolean	No	Yes	Specifies whether to audit the port snapshots of SAS.	Default value: false. Valid values: • true • false
SasSecurityAlertEnabled	Boolean	No	Yes	Specifies whether to audit the security alert logs of SAS.	Default value: false. Valid values: • true • false
SlbAccessEnabled	Boolean	No	Yes	Specifies whether to audit the access logs of SLB.	Default value: true. Valid values: • true • false
NasTtl	Number	No	Yes	The period of time during which the access logs of NAS are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.

Property	Type	Required	Editable	Description	Constraint
SasNetworkEnabled	Boolean	No	Yes	Specifies whether to audit the network connection logs of SAS.	Default value: false. Valid values: • true • false
SasLoginEnabled	Boolean	No	Yes	Specifies whether to audit the logon logs of SAS.	Default value: false. Valid values: • true • false
WafTtl	Number	No	Yes	The period of time during which the access logs of WAF are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
OssMeteringTtl	Number	No	Yes	The period of time during which the metering logs of OSS are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
SasSnapshotProcessEnabled	Boolean	No	Yes	Specifies whether to audit the process snapshots of SAS.	Default value: false. Valid values: • true • false
SasSecurityHcEnabled	Boolean	No	Yes	Specifies whether to audit the baseline logs of SAS.	Default value: false. Valid values: • true • false
RdsTtl	Number	No	Yes	The period of time during which the SQL audit logs of ApsaraDB RDS are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
CpsTtl	Number	No	Yes	The period of time during which the push receipt events of Alibaba Cloud Mobile Push are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
SlbSyncTtl	Number	No	Yes	The period of time during which the access logs of SLB are stored in the Logstore of the regional project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
CloudfirewallTtl	Number	No	Yes	The period of time during which the logs of traffic that passes through the Cloud Firewall (CFW) Internet firewall are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.

Property	Type	Required	Editable	Description	Constraint
ActiontrailEnabled	Boolean	No	Yes	Specifies whether to audit the operation logs of ActionTrail.	Default value: true. Valid values: • true • false
SasSecurityVulEnabled	Boolean	No	Yes	Specifies whether to audit the vulnerability logs of SAS.	Default value: false. Valid values: • true • false
ApigatewayTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for API Gateway.	Default value: false. Valid values: • true • false
RdsSlowCollectionPolicy	String	No	Yes	Specifies whether to audit the policy for the slow query logs of ApsaraDB RDS.	Default value: false. Valid values: • true • false
PolardbSlowCollectionPolicy	String	No	Yes	Specifies whether to audit the slow query logs of PolarDB.	Default value: false. Valid values: • true • false
BastionAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of BH.	None.
DdosCooAccessPolicySetting	List	No	Yes	The settings of the audit policy for Anti-DDoS.	None.
RdsAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of ApsaraDB RDS.	None.
ActiontrailOpenapiPolicySetting	List	No	Yes	The settings of the API policy for ActionTrail.	None.
BastionTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for BH.	Default value: false. Valid values: • true • false
K8sIngressTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for the Ingress access logs of Container Service for Kubernetes (ACK).	Default value: false. Valid values: • true • false
PolardbEnabled	Boolean	No	Yes	Specifies whether to audit the audit logs of PolarDB.	Default value: true. Valid values: • true • false
WafTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for WAF.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
RedisSyncTtl	Number	No	Yes	The period of time during which the audit logs of ApsaraDB for Redis are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
OssAccessPolicySetting	List	No	Yes	The settings of the access policy for OSS.	None.
AppconnectTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for Cloud Service Bus (CSB) App Connect.	Default value: false. Valid values: • true • false
ApigatewayAccessPolicySetting	List	No	Yes	The settings of the audit policy for API Gateway.	None.
NasTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for NAS.	Default value: false. Valid values: • true • false
RdsPerfTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for ApsaraDB RDS.	Default value: false. Valid values: • true • false
ActiontrailOpenapiCollectionPolicy	String	No	Yes	The collection policy for the API logs of ActionTrail.	None.
DrdsSyncTtl	Number	No	Yes	The period of time during which the SQL audit logs of PolarDB-X are synchronized to the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
K8sEventEnabled	Boolean	No	Yes	Specifies whether to audit the Kubernetes event center of ACK.	Default value: false. Valid values: • true • false
RedisSyncEnabled	Boolean	No	Yes	Specifies whether to synchronize the audit logs of ApsaraDB for Redis to the central project.	Default value: true. Valid values: • true • false
PolardbPerfTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for PolarDB.	Default value: false. Valid values: • true • false
CpsTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for Alibaba Cloud Mobile Push.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
CloudfirewallTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for CFW.	Default value: false. Valid values: • true • false
OssAccessTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for OSS.	Default value: false. Valid values: • true • false
PolardbSlowTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for the slow query logs of PolarDB.	Default value: false. Valid values: • true • false
RedisAuditTtl	Number	No	Yes	The period of time during which the access logs of ApsaraDB for Redis are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 7. Unit: days.
RdsAuditPolicySetting	List	No	Yes	The settings of the audit policy for ApsaraDB RDS.	None.
OssMeteringCollectionPolicy	String	No	Yes	The collection policy for the metering logs of OSS.	None.
ActiontrailTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for ActionTrail.	Default value: false. Valid values: • true • false
SasTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for SAS.	Default value: false. Valid values: • true • false
DdosCooAccessTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for Anti-DDoS.	Default value: false. Valid values: • true • false
WafAccessCollectionPolicy	String	No	Yes	The collection policy for WAF logs.	None.
CloudfirewallAccessPolicySetting	List	No	Yes	The settings of the collection policy for CFW logs.	None.
RedisAuditEnabled	Boolean	No	Yes	Specifies whether to audit the audit logs of ApsaraDB for Redis.	Default value: true. Valid values: • true • false
CpsCallbackPolicySetting	List	No	Yes	The settings of the collection policy for Alibaba Cloud Mobile Push logs.	None.

Property	Type	Required	Editable	Description	Constraint
BastionAuditPolicySetting	List	No	Yes	The settings of the collection policy for BH logs.	None.
PolardbSlowEnabled	Boolean	No	Yes	Specifies whether to audit the slow query logs of PolarDB.	Default value: false. Valid values: • true • false
DrdsAuditEnabled	Boolean	No	Yes	Specifies whether to audit the SQL audit logs of PolarDB-X.	Default value: true. Valid values: • true • false
PolardbTtl	Number	No	Yes	The period of time during which the audit logs of PolarDB are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
RdsPerfPolicySetting	List	No	Yes	The settings of the performance policy for ApsaraDB RDS.	None.
K8sIngressTtl	Number	No	Yes	The period of time during which the Ingress access logs of ACK are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
OssMeteringPolicySetting	List	No	Yes	The settings of the metering policy for OSS.	None.
K8sEventCollectionPolicy	String	No	Yes	The collection policy for the event logs of ACK.	None.
DrdsAuditPolicySetting	List	No	Yes	The settings of the audit policy for PolarDB-X.	None.
WafAccessPolicySetting	List	No	Yes	The settings of the audit policy for WAF.	None.
CloudfirewallEnabled	Boolean	No	Yes	Specifies whether to audit the logs of traffic that passes through the CFW VPC firewall.	Default value: true. Valid values: • true • false
PolardbAuditPolicySetting	List	No	Yes	The settings of the audit policy for PolarDB.	None.
RedisAuditTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for ApsaraDB for Redis.	Default value: false. Valid values: • true • false
RedisAuditPolicySetting	List	No	Yes	The settings of the audit policy for ApsaraDB for Redis.	None.

Property	Type	Required	Editable	Description	Constraint
SlbAccessPolicySetting	List	No	Yes	The settings of the audit policy for SLB.	None.
PolardbTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for PolarDB.	Default value: false. Valid values: • true • false
ApigatewayAccessCollectionPolicy	String	No	Yes	The audit policy for API Gateway.	None.
DrdsAuditTtl	Number	No	Yes	The period of time during which the SQL audit logs of PolarDB-X are stored in the Logstore of the regional project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
AppconnectEnabled	Boolean	No	Yes	Specifies whether to audit the operation logs of CSB App Connect.	Default value: false. Valid values: • true • false
DrdsSyncEnabled	Boolean	No	Yes	Specifies whether to synchronize the SQL audit logs of PolarDB-X to the central project.	Default value: true. Valid values: • true • false
OssMeteringTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for the metering logs of OSS.	Default value: false. Valid values: • true • false
K8sAuditTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for ACK.	Default value: false. Valid values: • true • false
PolardbSlowTtl	Number	No	Yes	The period of time during which the slow query logs of PolarDB are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
DrdsAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of PolarDB-X.	None.
K8sAuditPolicySetting	List	No	Yes	The settings of the audit policy for ACK.	None.
K8sEventPolicySetting	List	No	Yes	The settings of the event policy for ACK.	None.
RdsSlowTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for the slow query logs of ApsaraDB RDS.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
K8sIngressPolicySetting	List	No	Yes	The settings of the Ingress policy for ACK.	None.
RedisAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of ApsaraDB for Redis.	None.
PolardbPerfTtl	Number	No	Yes	The period of time during which the performance logs of PolarDB are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
AppconnectTtl	Number	No	Yes	The period of time during which the operation logs of CSB App Connect are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
DrdsAuditTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for PolarDB-X.	Default value: false. Valid values: • true • false
K8sAuditEnabled	Boolean	No	Yes	Specifies whether to audit the Kubernetes audit logs of ACK.	Default value: false. Valid values: • true • false
PolardbPerfPolicySetting	List	No	Yes	The settings of the performance logs of PolarDB.	None.
NasAuditPolicySetting	List	No	Yes	The settings of the audit policy for NAS.	None.
K8sEventTtl	Number	No	Yes	The period of time during which the event logs of ACK are stored in the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
CpsCallbackCollectionPolicy	String	No	Yes	The collection policy for Alibaba Cloud Mobile Push logs.	None.
PolardbAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of PolarDB.	None.
RdsPerfEnabled	Boolean	No	Yes	Specifies whether to audit the performance logs of ApsaraDB RDS.	Default value: false. Valid values: • true • false
RdsSlowEnabled	Boolean	No	Yes	Specifies whether to audit the slow query logs of ApsaraDB RDS.	Default value: false. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
PolardbSlowPolicySetting	List	No	Yes	The settings of the slow query log policy for PolarDB.	None.
DdosCooAccessTtl	Number	No	Yes	The period of time during which the Anti-DDoS logs are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
PolardbPerfCollectionPolicy	String	No	Yes	The collection policy for the performance logs of PolarDB.	None.
SlbAccessTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for SLB.	Default value: false. Valid values: • true • false
PolardbPerfEnabled	Boolean	No	Yes	Specifies whether to audit the performance logs of PolarDB.	Default value: false. Valid values: • true • false
AppconnectOpPolicySetting	List	No	Yes	The settings of the audit policy for CSB App Connect.	None.
K8sEventTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for ACK.	Default value: false. Valid values: • true • false
AppconnectOpCollectionPolicy	String	No	Yes	The collection policy for CSB App Connect logs.	None.
NasAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of NAS.	None.
K8sAuditTtl	Number	No	Yes	The period of time during which the Kubernetes audit logs of ACK are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
SlbAccessCollectionPolicy	String	No	Yes	The collection policy for the audit logs of SLB.	None.
K8sIngressEnabled	Boolean	No	Yes	Specifies whether to audit the Ingress access logs of ACK.	Default value: false. Valid values: • true • false
K8sAuditCollectionPolicy	String	No	Yes	The collection policy for the audit logs of ACK.	None.

Property	Type	Required	Editable	Description	Constraint
RdsPerfTtl	Number	No	Yes	The period of time during which the performance logs of ApsaraDB RDS are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
OssAccessCollectionPolicy	String	No	Yes	The collection policy for the access logs of OSS.	None.
RdsSlowPolicySetting	List	No	Yes	The settings of the slow query log policy for ApsaraDB RDS.	None.
RdsSlowTtl	Number	No	Yes	The period of time during which the slow query logs of ApsaraDB RDS are stored in the Logstore of the central project.	Valid values: 3 to 3000. Default value: 180. Unit: days.
RdsPerfCollectionPolicy	String	No	Yes	The collection policy for the performance logs of ApsaraDB RDS.	None.
DdosCooAccessEnabled	Boolean	No	Yes	Specifies whether to audit the access logs of Anti-DDoS.	Default value: false. Valid values: • true • false
DdosCooAccessCollectionPolicy	String	No	Yes	The collection policy for the audit logs of Anti-DDoS.	None.
CloudfirewallAccessCollectionPolicy	String	No	Yes	The collection policy for the audit logs of WAF.	None.
RdsTiEnabled	Boolean	No	Yes	Specifies whether to enable the threat intelligence feature for ApsaraDB RDS.	Default value: false. Valid values: • true • false
K8sIngressCollectionPolicy	String	No	Yes	The collection policy for the Ingress access logs of ACK.	None.

Return values

Fn::GetAtt

DisplayName: the display name of Log Audit Service.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VariableMap": {
      "Type": "Json",
      "Description": "Log audit detailed configuration."
    },
    "DisplayName": {
      "Type": "String",
      "Description": "Name of SLS log audit.",
      "MaxLength": 128
    },
    "MultiAccount": {
      "Type": "Json",
      "Description": "Multi-account configuration, please fill in multiple aliuid.",
      "MinLength": 0,
      "MaxLength": 100
    }
  },
  "Resources": {
    "Audit": {
      "Type": "ALIYUN::SLS::Audit",
      "Properties": {
        "VariableMap": {
          "Ref": "VariableMap"
        },
        "DisplayName": {
          "Ref": "DisplayName"
        },
        "MultiAccount": {
          "Ref": "MultiAccount"
        }
      }
    }
  },
  "Outputs": {
    "DisplayName": {
      "Description": "Name of SLS log audit.",
      "Value": {
        "Fn::GetAtt": [
          "Audit",
          "DisplayName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DisplayName:
    Description: Name of SLS log audit.
    MaxLength: 128
    Type: String
  MultiAccount:
    Description: Multi-account configuration, please fill in multiple aliuid.
    MaxLength: 100
    MinLength: 0
    Type: Json
  VariableMap:
    Description: Log audit detailed configuration.
    Type: Json
Resources:
  Audit:
    Properties:
      DisplayName:
        Ref: DisplayName
      MultiAccount:
        Ref: MultiAccount
      VariableMap:
        Ref: VariableMap
    Type: ALIYUN::SLS::Audit
Outputs:
  DisplayName:
    Description: Name of SLS log audit.
    Value:
      Fn::GetAtt:
      - Audit
      - DisplayName
```

65.3. ALIYUN::SLS::Etl

ALIYUN::SLS::Etl is used to create a data transformation task.

Syntax

```
{
  "Type": "ALIYUN::SLS::Etl",
  "Properties": {
    "Description": String,
    "Configuration": Map,
    "ProjectName": String,
    "Schedule": Map,
    "DisplayName": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the task.	None
Configuration	Map	Yes	No	The configurations of the task.	For more information, see Configuration properties.
ProjectName	String	Yes	No	The name of the destination Log Service project of the task.	None
Schedule	Map	Yes	No	The scheduling policy of the task.	For more information, see Schedule properties.

Property	Type	Required	Editable	Description	Constraint
DisplayName	String	Yes	No	The display name of the task.	None
Name	String	Yes	No	The name of the task.	None

Configuration syntax

```
"Configuration": {
  "Script": String,
  "Sinks": List,
  "Parameters": Map,
  "ToTime": Number,
  "Version": Number,
  "Logstore": String,
  "FromTime": Number,
  "RoleArn": String
}
```

Configuration properties

Property	Type	Required	Editable	Description	Constraint
Script	String	Yes	No	The syntax of the task.	None
Sinks	List	Yes	No	The storage destination configurations of the task.	Storage destinations include Log Service projects and Logstores. For more information, see Sinks properties.
Parameters	Map	No	No	The configurations of advanced parameters of the task.	None
ToTime	Number	No	No	The time when the task ends.	Default value: None.
Version	Number	No	No	The script version of the task.	None
Logstore	String	Yes	No	The source Logstore of the task.	None
FromTime	Number	No	No	The time when the task starts.	The default start time is the current time.
RoleArn	String	No	No	The Alibaba Cloud Resource Name (ARN) of the role that the user must assume by using Security Token Service (STS) to access the destination Logstore of the task.	None

Sinks syntax

```
"Sinks": [
  {
    "Project": String,
    "Type": String,
    "Endpoint": String,
    "Logstore": String,
    "RoleArn": String,
    "Name": String
  }
]
```

Sinks properties

Property	Type	Required	Editable	Description	Constraint
Project	String	Yes	No	The destination Log Service project of the task.	None
Type	String	No	No	The storage destination type of the task.	Storage destinations include Log Service projects and Logstores. Default value: AliyunLOG.
Endpoint	String	No	No	The endpoint of the server to which the destination Log Service project of the task belongs.	None
Logstore	String	Yes	No	The destination Logstore of the task.	None
RoleArn	String	No	No	The ARN of the role that the user must assume by using STS to access the destination Logstore of the task.	None
Name	String	Yes	No	The storage destination name of the task.	Storage destinations include Log Service projects and Logstores.

Schedule syntax

```
"Schedule": {
  "Type": String
}
```

Schedule properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The scheduling policy type of the task.	Set the value to Resident.

Response parameters

Fn::GetAtt

Name: the name of the task.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "ETL description message."
    },
    "Configuration": {
      "Type": "Json",
      "Description": "The configuration of ETL task"
    },
    "ProjectName": {
      "Type": "String",
      "Description": "Project name"
    },
    "Schedule": {
      "Type": "Json",
      "Description": "Task scheduling strategy"
    },
    "DisplayName": {
      "Type": "String",
      "Description": "ETL display name"
    },
    "Name": {
      "Type": "String",
      "Description": "ETL name"
    }
  },
  "Resources": {
    "Etl": {
      "Type": "ALIYUN::SLS::Etl",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "Configuration": {
          "Ref": "Configuration"
        },
        "ProjectName": {
          "Ref": "ProjectName"
        },
        "Schedule": {
          "Ref": "Schedule"
        },
        "DisplayName": {
          "Ref": "DisplayName"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Name": {
      "Description": "ETL name.",
      "Value": {
        "Fn::GetAtt": [
          "Etl",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Configuration:
    Description: The configuration of ETL task
    Type: Json
  Description:
    Description: ETL description message.
    Type: String
  DisplayName:
    Description: ETL display name
    Type: String
  Name:
    Description: ETL name
    Type: String
  ProjectName:
    Description: Project name
    Type: String
  Schedule:
    Description: Task scheduling strategy
    Type: Json
Resources:
  Etl:
    Properties:
      Configuration:
        Ref: Configuration
      Description:
        Ref: Description
      DisplayName:
        Ref: DisplayName
      Name:
        Ref: Name
      ProjectName:
        Ref: ProjectName
      Schedule:
        Ref: Schedule
    Type: ALIYUN::SLS::Etl
Outputs:
  Name:
    Description: ETL name.
    Value:
      Fn::GetAtt:
      - Etl
      - Name
```

65.4. ALIYUN::SLS::Index

ALIYUN::SLS::Index is used to create an index for a specified Logstore.

Syntax

```
{
  "Type": "ALIYUN::SLS::Index",
  "Properties": {
    "ProjectName": String,
    "FullTextIndex": Map,
    "LogstoreName": String,
    "KeyIndices": List,
    "LogReduce": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ProjectName	String	Yes	No	The name of the Log Service project.	The name must be 3 to 36 characters in length and can contain lowercase letters, digits, hyphens (-), and underscores (_). It must start with a lowercase letter or digit.
FullTextIndex	Map	Yes	Yes	The full-text index configurations.	For more information, see FullTextIndex properties.
LogstoreName	String	Yes	No	The name of the Logstore.	None
KeyIndices	List	No	Yes	The field index configurations.	You must specify at least one of the FullTextIndex and KeyIndices parameters. For more information, see Properties.
LogReduce	Boolean	No	Yes	Specifies whether to enable LogReduce.	Default value: false. Valid values: • true • false

FullTextIndex syntax

```
"FullTextIndex": {
  "CaseSensitive": Boolean,
  "Delimiter": String,
  "IncludeChinese": Boolean,
  "Enable": Boolean
}
```

FullTextIndex properties

Property	Type	Required	Editable	Description	Constraint
Enable	Boolean	Yes	Yes	Specifies whether to enable full-text indexing.	Default value: true. Valid values: • true • false
CaseSensitive	Boolean	No	Yes	Specifies whether the field is case-sensitive.	Default value: false. Valid values: • true • false
Delimiter	String	No	Yes	The delimiter that is used to separate keywords.	Valid values: `,'";=()[]{}? @&<>/:\n\t\r`
IncludeChinese	Boolean	No	Yes	Specifies whether to support Chinese word segmentation.	Default value: false. Valid values: • true • false

KeyIndices syntax

```
"KeyIndices": [
  {
    "Name": String,
    "EnableAnalytics": Boolean,
    "Delimiter": String,
    "CaseSensitive": Boolean,
    "JsonKeyIndices": List,
    "Alias": String,
    "IncludeChinese": String,
    "Type": String
  }
]
```

KeyIndices properties

Property	Type	Required	Editable	Description	Constraint
Name	String	Yes	Yes	The name of the field.	You can use a nested name that is separated with periods (.). Example: k1.k2.k3.
EnableAnalytics	Boolean	No	Yes	Specifies whether to enable statistical analysis on the field.	Default value: true. Valid values: • true • false
Delimiter	String	No	Yes	The delimiter that is used to separate keywords.	Valid values: `,'";=()[]{}? @&<>/:\n\t\r`
CaseSensitive	Boolean	No	Yes	Specifies whether the field is case-sensitive.	Default value: false. Valid values: • true • false This parameter takes effect only when the Type parameter is set to text or json.
JsonKeyIndices	List	No	Yes	The JSON index configurations. Format: `[{"key1": "value1", "key2": "value2", ...}]`.	Supported keys are Name, Alias, Type, and EnableAnalytics. For more information, see JsonKeyIndices properties.
Alias	String	No	Yes	The alias of the field.	None
IncludeChinese	Boolean	No	Yes	Specifies whether to support Chinese word segmentation.	Default value: false. Valid values: • true • false This parameter takes effect only when the Type parameter is set to text.
Type	String	Yes	Yes	The type of the field.	Default value: text. Valid values: • text • long • double • json

JsonKeyIndices syntax

```
"JsonKeyIndices": [
  {
    "Type": String,
    "Alias": String,
    "EnableAnalytics": Boolean,
    "Name": String
  }
]
```

JsonKeyIndices properties

Property	Type	Required	Editable	Description	Constraint
Name	String	Yes	Yes	The name of the field.	None
EnableAnalytics	Boolean	No	Yes	Specifies whether to enable statistical analysis on the field.	Valid values: • true • false
Alias	String	No	Yes	The alias of the field.	None
Type	String	Yes	Yes	The type of the field.	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Index": {
      "Type": "ALIYUN::SLS::Index",
      "Properties": {
        "ProjectName": {
          "Ref": "ProjectName"
        },
        "FullTextIndex": {
          "Ref": "FullTextIndex"
        },
        "LogstoreName": {
          "Ref": "LogstoreName"
        },
        "KeyIndices": {
          "Ref": "KeyIndices"
        },
        "LogReduce": {
          "Ref": "LogReduce"
        }
      }
    }
  },
  "Parameters": {
    "ProjectName": {
      "Type": "String",
      "Description": "Project name:1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).2. Must start a
nd end with lowercase letters and numbers.3. The name length is 3-63 characters.",
      "MinLength": 3,
      "MaxLength": 63
    },
    "FullTextIndex": {
      "Type": "Map",
      "Description": "Full-text indexing configuration.Full-text indexing and key indexing must have at least one enabled."
    },
    "LogstoreName": {
      "Type": "String",
      "Description": "Logstore name:1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).2. Must start
and end with lowercase letters and numbers.3. The name length is 3-63 characters.",
      "MinLength": 3,
      "MaxLength": 63
    },
    "KeyIndices": {
      "Type": "List",
      "Description": "Key index configurations.Full-text indexing and key indexing must have at least one enabled."
    },
    "LogReduce": {
      "Default": false,
      "Type": "Boolean",
      "Description": "Whether to enable log reduce. Default to false.",
      "AllowedValues": [
        true,
        false
      ]
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Index:
    Type: ALIYUN::SLS::Index
    Properties:
      ProjectName:
        Ref: ProjectName
      FullTextIndex:
        Ref: FullTextIndex
      LogstoreName:
        Ref: LogstoreName
      KeyIndices:
        Ref: KeyIndices
      LogReduce:
        Ref: LogReduce
Parameters:
  ProjectName:
    MinLength: 3
    MaxLength: 63
    Type: String
    Description: Project name:1. Only supports lowercase letters, numbers, hyphens
      (-) and underscores (_).2. Must start and end with lowercase letters and numbers.3.
      The name length is 3-63 characters.
  FullTextIndex:
    Type: Map
    Description: Full-text indexing configuration.Full-text indexing and key indexing
      must have at least one enabled.
  LogstoreName:
    MinLength: 3
    MaxLength: 63
    Type: String
    Description: Logstore name:1. Only supports lowercase letters, numbers, hyphens
      (-) and underscores (_).2. Must start and end with lowercase letters and numbers.3.
      The name length is 3-63 characters.
  KeyIndices:
    Type: List
    Description: Key index configurations.Full-text indexing and key indexing must
      have at least one enabled.
  LogReduce:
    Default: false
    Type: Boolean
    Description: Whether to enable log reduce. Default to false.
    AllowedValues:
    - true
    - false
```

65.5. ALIYUN::SLS::Project

ALIYUN::SLS::Project is used to create a Log Service project.

Syntax

```
{
  "Type": "ALIYUN::SLS::Project",
  "Properties": {
    "Name": String,
    "Description": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Name	String	Yes	No	The name of the project.	The name must be 3 to 36 characters in length, and can contain lowercase letters, digits, and hyphens (-). The name must start and end with a lowercase letter or digit.

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the project.	The description can be up to 64 characters in length, and cannot contain the following special characters: `<> ' \ "`
Tags	List	No	Yes	The tags of the project.	You can specify up to 20 tags. For more information, see Tags syntax and Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.

Response parameters

Fn::GetAtt

Name: the name of the Log Service project.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Project description: <>'\"\\ is not supported, up to 64 characters.",
      "MaxLength": 64
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to project. Max support 20 tags to add during create project. Each tag with two properties
Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Name": {
      "Type": "String",
      "Description": "Project name:\n1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).\n2. Must sta
rt and end with lowercase letters and numbers.\n3. The name length is 3-63 characters.",
      "AllowedPattern": "^[a-zA-Z0-9_-]+$",
      "MinLength": 3,
      "MaxLength": 63
    }
  },
  "Resources": {
    "Project": {
      "Type": "ALIYUN::SLS::Project",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Name": {
      "Description": "Project name.",
      "Value": {
        "Fn::GetAtt": [
          "Project",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: 'Project description: <>'"\ is not supported, up to 64 characters.'
    MaxLength: 64
  Tags:
    Type: Json
    Description: >-
      Tags to attach to project. Max support 20 tags to add during create
      project. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
  Name:
    Type: String
    Description: >-
      Project name:
      1. Only supports lowercase letters, numbers, hyphens (-) and underscores
      (_).
      2. Must start and end with lowercase letters and numbers.
      3. The name length is 3-63 characters.
    AllowedPattern: '^[a-zA-Z0-9_-]+$'
    MinLength: 3
    MaxLength: 63
Resources:
  Project:
    Type: 'ALIYUN::SLS::Project'
    Properties:
      Description:
        Ref: Description
      Tags:
        Ref: Tags
      Name:
        Ref: Name
Outputs:
  Name:
    Description: Project name.
    Value:
      'Fn::GetAtt':
        - Project
        - Name
```

For more information about examples, visit SLS.json and SLS.yml. You can specify the following resource types that are involved in the examples to use relevant features:

- ALIYUN::SLS::Project
- ALIYUN::SLS::Logstore
- ALIYUN::SLS::Index
- ALIYUN::SLS::LogtailConfig
- ALIYUN::SLS::MachineGroup
- ALIYUN::SLS::ApplyConfigToMachineGroup
- ALIYUN::ApiGateway::LogConfig
- ALIYUN::SLS::Savedsearch
- ALIYUN::SLS::Alert

65.6. ALIYUN::SLS::Savedsearch

ALIYUN::SLS::Savedsearch is used to save search results as a saved search.

Syntax

```
{
  "Type": "ALIYUN::SLS::Savedsearch",
  "Properties": {
    "Project": String,
    "Detail": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Project	String	Yes	No	The name of the Log Service project.	None
Detail	Map	Yes	Yes	The details of the query.	For more information, see Detail properties.

Detail syntax

```
"Detail": {
  "SearchQuery": String,
  "Logstore": String,
  "DisplayName": String,
  "SavedsearchName": String,
  "Topic": String
}
```

Detail properties

Property	Type	Required	Editable	Description	Constraint
SearchQuery	String	Yes	Yes	The query statement.	None
Logstore	String	Yes	Yes	The Logstore in which the query is performed.	None
DisplayName	String	No	Yes	The display name that you specify for the saved search.	The name must be 1 to 63 characters in length.
SavedsearchName	String	Yes	No	The name of the saved search, which is generated by the system in the project.	None
Topic	String	Yes	Yes	The log topic that is used to classify logs.	None

Response parameters

Fn::GetAtt

SavedsearchName: the name of the saved search.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Project": {
      "Type": "String",
      "Description": "Project name"
    },
    "Detail": {
      "Type": "Json",
      "Description": ""
    }
  },
  "Resources": {
    "SavedSearch": {
      "Type": "ALIYUN::SLS::Savedsearch",
      "Properties": {
        "Project": {
          "Ref": "Project"
        },
        "Detail": {
          "Ref": "Detail"
        }
      }
    }
  },
  "Outputs": {
    "SavedsearchName": {
      "Description": "Savedsearch name.",
      "Value": {
        "Fn::GetAtt": [
          "SavedSearch",
          "SavedsearchName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Project:
    Type: String
    Description: Project name
  Detail:
    Type: Json
    Description: ''
Resources:
  SavedSearch:
    Type: 'ALIYUN::SLS::Savedsearch'
    Properties:
      Project:
        Ref: Project
      Detail:
        Ref: Detail
Outputs:
  SavedsearchName:
    Description: Savedsearch name.
    Value:
      'Fn::GetAtt':
        - SavedSearch
        - SavedsearchName
```

65.7. ALIYUN::SLS::Logstore

ALIYUN::SLS::Logstore is used to create a Logstore in a Log Service project.

Syntax

```
{
  "Type": "ALIYUN::SLS::Logstore",
  "Properties": {
    "ProjectName": String,
    "ShardCount": Integer,
    "AutoSplit": Boolean,
    "MaxSplitShard": Integer,
    "LogstoreName": String,
    "AppendMeta": Boolean,
    "TTL": Integer,
    "EnableTracking": Boolean,
    "PreserveStorage": Boolean,
    "EncryptConf": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ProjectName	String	Yes	No	The name of the Log Service project that the Logstore belongs to.	The name must be 3 to 36 characters in length. The name can contain lowercase letters, digits, hyphens (-), and underscores (_). The name must start and end with a lowercase letter or digit.
ShardCount	Integer	No	Yes	The number of shards.	Valid values: 1 to 100. Default value: 2.
MaxSplitShard	Integer	No	Yes	The maximum number of shards that can be obtained during automatic splitting.	Valid values: 1 to 64. MaxSplitShard is required if autoSplit is set to true.
LogstoreName	String	Yes	No	The name of the Logstore.	The name must be unique in a project. • The name must be 3 to 36 characters in length. • The name can contain lowercase letters, digits, hyphens (-), and underscores (_). • The name must start and end with a lowercase letter or digit.
AutoSplit	Boolean	No	Yes	Specifies whether to automatically split shards.	Default value: false. Valid values: • true: automatically splits shards. • false: does not automatically split shards.
TTL	Integer	No	Yes	The data retention period.	Valid values: 1 to 3600. Default value: 30. Unit: days.
EnableTracking	Boolean	No	Yes	Specifies whether to enable web tracking.	You can use web tracking to collect access information about web browsers, iOS applications, and Android applications. Default value: false. Valid values: • true: enables web tracking. • false: disables web tracking.

Property	Type	Required	Editable	Description	Constraint
PreserveStorage	Boolean	No	Yes	Specifies whether to permanently retain logs.	Default value: false. Valid values: • true: permanently retains logs. The TTL parameter does not take effect if PreserveStorage is set to true. • false: does not permanently retain logs.
AppendMeta	Boolean	No	Yes	Specifies whether to automatically add the public IP address of the client and the log arrival time after the log is received.	Default value: false. Valid values: • true: automatically adds the public IP address of the client and the log collection time after the log is received. • false: does not automatically add the public IP address of the client and the log collection time after the log is received.
EncryptConf	Map	No	No	The data encryption configurations.	For more information, see EncryptConf syntax and EncryptConf properties.

EncryptConf syntax

```
"EncryptConf": {
    "Enable": Boolean,
    "EncryptType": String,
    "UserCmkInfo": Map
}
```

EncryptConf properties

Property	Type	Required	Editable	Description	Constraint
Enable	Boolean	Yes	No	Specifies whether to enable data encryption.	Default value: false. Valid values: • true: enables data encryption. • false: does not enable data encryption.
EncryptType	String	Yes	No	The encryption algorithm.	Valid values: • default: the Advanced Encryption Standard (AES) algorithm. • m4: the SM4 encryption algorithm. **Note** For more information about data encryption, see Encrypt data.
UserCmkInfo	Map	No	No	We recommend that you use the bring-your-own-key (BYOK) method to encrypt or decrypt data if UserCmkInfo is specified. If UserCmkInfo is not specified, the service key of Log Service is used to encrypt or decrypt data.	For more information, see UserCmkInfo syntax and UserCmkInfo properties.

UserCmkInfo syntax

```
"UserCmkInfo": {
    "CmkKeyId": String,
    "Arn": String,
    "RegionId": String
  }
```

UserCmkInfo properties

Property	Type	Required	Editable	Description	Constraint
CmkKeyId	String	Yes	No	The ID of the customer master key (CMK) to which the BYOK key belongs.	None
Arn	String	Yes	No	The ID of the region to which the CMK belongs.	None
RegionId	String	Yes	No	The Alibaba Cloud Resource Name (ARN) of the RAM role.	For more information about how to obtain the ARN of a RAM role, see Ship log data from Log Service to OSS.

Response parameters

Fn::GetAtt

LogstoreName: the name of the Logstore.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LogstoreName": {
      "Type": "String",
      "Description": "Logstore name:\n1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).\n2. Must st
art and end with lowercase letters and numbers.\n3. The name length is 3-63 characters.",
      "MinLength": 3,
      "MaxLength": 63
    },
    "PreserveStorage": {
      "Type": "Boolean",
      "Description": "Whether to keep the log permanently.\nIf set to true, TTL will be ignored.\nDefault to false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "ProjectName": {
      "Type": "String",
      "Description": "Project name:\n1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).\n2. Must sta
rt and end with lowercase letters and numbers.\n3. The name length is 3-63 characters.",
      "AllowedPattern": "^[a-zA-Z0-9_-]+$",
      "MinLength": 3,
      "MaxLength": 63
    },
    "AppendMeta": {
      "Type": "Boolean",
      "Description": "Whether to add client external network IP and log arrival time after receiving the log.\nDefault to false
.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
```

```
      "Default": false
    },
    "MaxSplitShard": {
      "Type": "Number",
      "Description": "The maximum number of shards when splitting automatically. Must be specified if AutoSplit is set to true.
\nAllowed Values: 1-64.",
      "MinValue": 1,
      "MaxValue": 64
    },
    "AutoSplit": {
      "Type": "Boolean",
      "Description": "Whether to automatically split the shard.\nDefault to false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "EnableTracking": {
      "Type": "Boolean",
      "Description": "Whether to enable WebTracking, which supports fast capture of various browsers and iOS/Android/APP access
information.\nDefault to false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "EncryptConf": {
      "Type": "Json",
      "Description": "Data encryption config"
    },
    "TTL": {
      "Type": "Number",
      "Description": "The lifecycle of log in the logstore in days.\nAllowed Values: 1-3600, default to 30.",
      "MinValue": 1,
      "MaxValue": 3600,
      "Default": 30
    },
    "ShardCount": {
      "Type": "Number",
      "Description": "The number of Shards.\nAllowed Values: 1-100, default to 2.",
      "MinValue": 1,
      "MaxValue": 100,
      "Default": 2
    }
  },
  "Resources": {
    "Logstore": {
      "Type": "ALIYUN::SLS::Logstore",
      "Properties": {
        "LogstoreName": {
          "Ref": "LogstoreName"
        },
        "PreserveStorage": {
          "Ref": "PreserveStorage"
        },
        "ProjectName": {
          "Ref": "ProjectName"
        },
        "AppendMeta": {
          "Ref": "AppendMeta"
        },
        "MaxSplitShard": {
          "Ref": "MaxSplitShard"
        },
        "AutoSplit": {
          "Ref": "AutoSplit"
        },
        "EnableTracking": {
```

```
          "Ref": "EnableTracking"
        },
        "EncryptConf": {
          "Ref": "EncryptConf"
        },
        "TTL": {
          "Ref": "TTL"
        },
        "ShardCount": {
          "Ref": "ShardCount"
        }
      }
    }
  },
  "Outputs": {
    "LogstoreName": {
      "Description": "Logstore name.",
      "Value": {
        "Fn::GetAtt": [
          "Logstore",
          "LogstoreName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AppendMeta:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to add client external network IP and log arrival time after
      receiving the log.
      Default to false.'
    Type: Boolean
  AutoSplit:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to automatically split the shard.
      Default to false.'
    Type: Boolean
  EnableTracking:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to enable WebTracking, which supports fast capture of various
      browsers and iOS/Android/APP access information.
      Default to false.'
    Type: Boolean
  EncryptConf:
    Description: Data encryption config
    Type: Json
  LogstoreName:
    Description: 'Logstore name:
      1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).
      2. Must start and end with lowercase letters and numbers.
      3. The name length is 3-63 characters.'
    MaxLength: 63
    MinLength: 3
    Type: String
```

```
  MaxSplitShard:
    Description: 'The maximum number of shards when splitting automatically. Must
      be specified if AutoSplit is set to true.
      Allowed Values: 1-64.'
    MaxValue: 64
    MinValue: 1
    Type: Number
  PreserveStorage:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to keep the log permanently.
      If set to true, TTL will be ignored.
      Default to false.'
    Type: Boolean
  ProjectName:
    AllowedPattern: ^[a-zA-Z0-9_-]+$
    Description: 'Project name:
      1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_).
      2. Must start and end with lowercase letters and numbers.
      3. The name length is 3-63 characters.'
    MaxLength: 63
    MinLength: 3
    Type: String
  ShardCount:
    Default: 2
    Description: 'The number of Shards.
      Allowed Values: 1-100, default to 2.'
    MaxValue: 100
    MinValue: 1
    Type: Number
  TTL:
    Default: 30
    Description: 'The lifecycle of log in the logstore in days.
      Allowed Values: 1-3600, default to 30.'
    MaxValue: 3600
    MinValue: 1
    Type: Number
Resources:
  Logstore:
    Properties:
      AppendMeta:
        Ref: AppendMeta
      AutoSplit:
        Ref: AutoSplit
      EnableTracking:
        Ref: EnableTracking
      EncryptConf:
        Ref: EncryptConf
      LogstoreName:
        Ref: LogstoreName
      MaxSplitShard:
        Ref: MaxSplitShard
      PreserveStorage:
        Ref: PreserveStorage
      ProjectName:
        Ref: ProjectName
      ShardCount:
        Ref: ShardCount
      TTL:
        Ref: TTL
    Type: ALIYUN::SLS::Logstore
Outputs:
  LogstoreName:
    Description: Logstore name.
    Value:
      Fn::GetAtt:
      - Logstore
      - LogstoreName
```

To view more examples, visit SLS.json and SLS.yml. In the examples, the ALIYUN::SLS::Project, ALIYUN::SLS::Logstore, ALIYUN::SLS::Index, ALIYUN::SLS::LogtailConfig, ALIYUN::SLS::MachineGroup, ALIYUN::SLS::ApplyConfigToMachineGroup, ALIYUN::ApiGateway::LogConfig, ALIYUN::SLS::Savedsearch, and ALIYUN::SLS::Alert resource types are used.

65.8. ALIYUN::SLS::LogtailConfig

ALIYUN::SLS::LogtailConfig is used to configure Logtail parameters for data collection.

Syntax

```
{
  "Type": "ALIYUN::SLS::LogtailConfig",
  "Properties": {
    "ProjectName": String,
    "LogtailConfigName": String,
    "LogstoreName": String,
    "RawConfigData": Map,
    "CloneFrom": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ProjectName	String	Yes	No	The name of the Log Service project.	None
LogtailConfigName	String	Yes	No	The name of the Logtail configuration file.	The configuration file name must be unique in a project. The name must be 2 to 128 characters in length and can contain lowercase letters, digits, hyphens (-), and underscores (_). It must start and end with a lowercase letter or digit.
LogstoreName	String	Yes	No	The name of the Logstore.	None
					The format is the same as that of the response from the GetConfig operation of Log Service. If CloneFrom and RawConfigData are both specified, the data of LogtailConfig and RawConfigData is merged. In this case, configName, outputType, and outputDetail of RawConfigData are ignored.

Property	Type	Required	Editable	Description	Constraint
RawConfigData	Map	No	Yes	The raw configuration data.	Sample value: `{"configName": "test-logtail-config", "createTime": 1574843554, "inputDetail": {"acceptNoEnoughKeys": false, "adjustTimezone": false, "advanced": { "force_multiconfig": false }, "autoExtend": true, "delayAlarmBytes": 0, "delaySkipBytes": 0, "discardNonUtf8": false, "discardUnmatch": false, "dockerExcludeEnv": {}, "dockerExcludeLabel": {}, "dockerFile": false, "dockerIncludeEnv": {}, "dockerIncludeLabel": {}, "enableRawLog": false, "enableTag": false, "fileEncoding": "utf8", "filePattern": "test.log*", "filterKey": [], "filterRegex": [], "key": ["time", "logger", "level", "request_id", "user_id", "region_id", "content"], "localStorage": true, "logPath": "/var/log/test", "logTimezone": "", "logType": "delimiter_log", "maxDepth": 100, "maxSendRate": -1, "mergeType": "topic", "preserve": true, "preserveDepth": 1, "priority": 0, "quote": "\u0001", "sendRateExpire": 0, "sensitive_keys": [], "separator": ",,,", "shardHashKey": [], "tailExisted": false, "timeFormat": "", "timeKey": "", "topicFormat": "none" }, "inputType": "file", "lastModifyTime": 1574843554, "logSample": "2019-11-27 10:48:23,160,,,MAIN,,,INFO,,,98DCC51D-BE5D-49C7-B3FD-37B2BAEFB296,,,123456789,,,cn-hangzhou,,,this is a simple test.", "outputDetail": { "endpoint": "cn-hangzhou-intranet.log.aliyuncs.com", "logstoreName": "test-logstore", "region": "cn-hangzhou", "outputType": "LogService"}` . For more information, see CloneFrom properties.
CloneFrom	Map	No	Yes	The configurations for cloning LogtailConfig data of another Log Service project.	You must specify one of the CloneFrom and LogtailConfig parameters.

CloneFrom syntax

```
"CloneFrom": {
  "ProjectName": String,
  "LogtailConfigName": String
}
```

CloneFrom properties

Property	Type	Required	Editable	Description	Constraint
ProjectName	String	Yes	Yes	The name of the Log Service project.	None
LogtailConfigName	String	Yes	Yes	The name of the Logtail configuration file.	None

Response parameters

Fn::GetAtt

- Endpoint: the endpoint.
- AppliedMachineGroups: a list of machines configured for log collection.
- LogtailConfigName: the name of the Logtail configuration file.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "LogtailConfig": {
      "Type": "ALIYUN::SLS::LogtailConfig",
      "Properties": {
        "ProjectName": {
          "Ref": "ProjectName"
        },
        "LogtailConfigName": {
          "Ref": "LogtailConfigName"
        },
        "LogstoreName": {
          "Ref": "LogstoreName"
        },
        "RawConfigData": {
          "Ref": "RawConfigData"
        },
        "CloneFrom": {
          "Ref": "CloneFrom"
        }
      }
    }
  },
  "Parameters": {
    "ProjectName": {
      "MinLength": 3,
      "Type": "String",
      "Description": "Project name: 1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_). 2. Must start
and end with lowercase letters and numbers. 3. The name length is 3-63 characters.",
      "MaxLength": 63
    },
    "LogtailConfigName": {
      "MinLength": 3,
      "Type": "String",
      "Description": "Logtail config name: 1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_). 2. Mus
t start and end with lowercase letters and numbers. 3. The name length is 3-63 characters.",
      "MaxLength": 63
    },
    "LogstoreName": {
      "MinLength": 3,
      "Type": "String",
      "Description": "Logstore name: 1. Only supports lowercase letters, numbers, hyphens (-) and underscores (_). 2. Must star
t and end with lowercase letters and numbers. 3. The name length is 3-63 characters.",
      "MaxLength": 63
    },
    "RawConfigData": {
      "Type": "Json",
      "Description": "The format is the same as the response of SLS API GetConfig. Either CloneFrom or RawConfigData must be sp
ecified. If CloneFrom and RawConfigData are both specified, logtail config data will be merged from both with RawConfigData fir
```

```
st. configName, outputType, outputDetail in data will be ignored.For example:\n{\"configName\": \"test-logtail-config\",\"creat
eTime\": 1574843554,\"inputDetail\": { \"acceptNoEnoughKeys\": false, \"adjustTimezone\": false, \"advanced\": {   \"force_mult
iconfig\": false }, \"autoExtend\": true, \"delayAlarmBytes\": 0, \"delaySkipBytes\": 0, \"discardNonUtf8\": false, \"discardUn
match\": false, \"dockerExcludeEnv\": {}, \"dockerExcludeLabel\": {}, \"dockerFile\": false, \"dockerIncludeEnv\": {}, \"docker
IncludeLabel\": {}, \"enableRawLog\": false, \"enableTag\": false, \"fileEncoding\": \"utf8\", \"filePattern\": \"test.log*\",
\"filterKey\": [], \"filterRegex\": [], \"key\": [   \"time\",   \"logger\",   \"level\",   \"request_id\",   \"user_id\",   \"
region_id\",   \"content\" ], \"localStorage\": true, \"logPath\": \"/var/log/test\", \"logTimezone\": \"\", \"logType\": \"del
imiter_log\", \"maxDepth\": 100, \"maxSendRate\": -1, \"mergeType\": \"topic\", \"preserve\": true, \"preserveDepth\": 1, \"pri
ority\": 0, \"quote\": \"\\u0001\", \"sendRateExpire\": 0, \"sensitive_keys\": [], \"separator\": \",,,\", \"shardHashKey\": []
, \"tailExisted\": false, \"timeFormat\": \"\", \"timeKey\": \"\", \"topicFormat\": \"none\"}, \"inputType\": \"file\", \"lastM
odifyTime\": 1574843554, \"logSample\": \"2019-11-27 10:48:23,160,,,MAIN,,,INFO,,,98DCC51D-BE5D-49C7-B3FD-37B2BAEFB296,,,123456
789,,,cn-hangzhou,,,this is a simple test.\", \"outputDetail\": {\"endpoint\": \"cn-hangzhou-intranet.log.aliyuncs.com\", \"log
storeName\": \"test-logstore\",\"region\": \"cn-hangzhou\"}, \"outputType\": \"LogService\"}"
    },
    "CloneFrom": {
      "Type": "Json",
      "Description": "Clone logtail config data from existing logtail config. Either CloneFrom or RawConfigData must be specifi
ed. If CloneFrom and RawConfigData are both specified, logtail config data will be merged from both with RawConfigData first."
    }
  },
  "Outputs": {
    "LogtailConfigName": {
      "Description": "Logtail config name.",
      "Value": {
        "Fn::GetAtt": [
          "LogtailConfig",
          "LogtailConfigName"
        ]
      }
    },
    "Endpoint": {
      "Description": "Endpoint address.",
      "Value": {
        "Fn::GetAtt": [
          "LogtailConfig",
          "Endpoint"
        ]
      }
    },
    "AppliedMachineGroups": {
      "Description": "Applied machine groups.",
      "Value": {
        "Fn::GetAtt": [
          "LogtailConfig",
          "AppliedMachineGroups"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  LogtailConfig:
    Type: ALIYUN::SLS::LogtailConfig
    Properties:
      ProjectName:
        Ref: ProjectName
      LogtailConfigName:
        Ref: LogtailConfigName
      LogstoreName:
        Ref: LogstoreName
      RawConfigData:
        Ref: RawConfigData
      CloneFrom:
        Ref: CloneFrom
Parameters:
  ProjectName:
    MinLength: 3
    Type: String
    Description: 'Project name: 1. Only supports lowercase letters, numbers, hyphens
      (-) and underscores ( ). 2. Must start and end with lowercase letters and numbers.
```

```
      3. The name length is 3-63 characters.'
    MaxLength: 63
  LogtailConfigName:
    MinLength: 3
    Type: String
    Description: 'Logtail config name: 1. Only supports lowercase letters, numbers,
      hyphens (-) and underscores (_). 2. Must start and end with lowercase letters
      and numbers. 3. The name length is 3-63 characters.'
    MaxLength: 63
  LogstoreName:
    MinLength: 3
    Type: String
    Description: 'Logstore name: 1. Only supports lowercase letters, numbers, hyphens
      (-) and underscores (_). 2. Must start and end with lowercase letters and numbers.
      3. The name length is 3-63 characters.'
    MaxLength: 63
  RawConfigData:
    Type: Json
    Description: |-
      The format is the same as the response of SLS API GetConfig. Either CloneFrom or RawConfigData must be specified. If Clon
eFrom and RawConfigData are both specified, logtail config data will be merged from both with RawConfigData first. configName,
outputType, outputDetail in data will be ignored.For example:
      {"configName": "test-logtail-config","createTime": 1574843554,"inputDetail": { "acceptNoEnoughKeys": false, "adjustTimezo
ne": false, "advanced": {   "force_multiconfig": false }, "autoExtend": true, "delayAlarmBytes": 0, "delaySkipBytes": 0, "disca
rdNonUtf8": false, "discardUnmatch": false, "dockerExcludeEnv": {}, "dockerExcludeLabel": {}, "dockerFile": false, "dockerInclu
deEnv": {}, "dockerIncludeLabel": {}, "enableRawLog": false, "enableTag": false, "fileEncoding": "utf8", "filePattern": "test.l
og*", "filterKey": [], "filterRegex": [], "key": [   "time",   "logger",   "level",   "request_id",   "user_id",   "region_id",
"content" ], "localStorage": true, "logPath": "/var/log/test", "logTimezone": "", "logType": "delimiter_log", "maxDepth": 100,
"maxSendRate": -1, "mergeType": "topic", "preserve": true, "preserveDepth": 1, "priority": 0, "quote": "\u0001", "sendRateExpir
e": 0, "sensitive_keys": [], "separator": ",,,", "shardHashKey": [], "tailExisted": false, "timeFormat": "", "timeKey": "", "to
picFormat": "none"}, "inputType": "file", "lastModifyTime": 1574843554, "logSample": "2019-11-27 10:48:23,160,,,MAIN,,,INFO,,,9
8DCC51D-BE5D-49C7-B3FD-37B2BAEFB296,,,123456789,,,cn-hangzhou,,,this is a simple test.", "outputDetail": {"endpoint": "cn-hangz
hou-intranet.log.aliyuncs.com", "logstoreName": "test-logstore","region": "cn-hangzhou"}, "outputType": "LogService"}
  CloneFrom:
    Type: Json
    Description: Clone logtail config data from existing logtail config. Either CloneFrom
      or RawConfigData must be specified. If CloneFrom and RawConfigData are both
      specified, logtail config data will be merged from both with RawConfigData first.
Outputs:
  Endpoint:
    Description: Endpoint address.
    Value:
      Fn::GetAtt:
      - LogtailConfig
      - Endpoint
  AppliedMachineGroups:
    Description: Applied machine groups.
    Value:
      Fn::GetAtt:
      - LogtailConfig
      - AppliedMachineGroups
  LogtailConfigName:
    Description: Logtail config name.
    Value:
      Fn::GetAtt:
      - LogtailConfig
      - LogtailConfigName
```

To view more examples, visit SLS.json and SLS.yml. In the examples, the ALIYUN::SLS::Project, ALIYUN::SLS::Logstore, ALIYUN::SLS::Index, ALIYUN::SLS::LogtailConfig, ALIYUN::SLS::MachineGroup, ALIYUN::SLS::ApplyConfigToMachineGroup, ALIYUN::ApiGateway::LogConfig, ALIYUN::SLS::Savedsearch, and ALIYUN::SLS::Alert resource types are involved.

65.9. ALIYUN::SLS::MachineGroup

ALIYUN::SLS::MachineGroup is used to create a machine group. Log Service manages all the ECS instances whose logs need to be collected using the Logtail client in the form of machine groups.

Syntax

```
{
  "Type": "ALIYUN::SLS::MachineGroup",
  "Properties": {
    "GroupType": String,
    "ProjectName": String,
    "MachineList": List,
    "GroupName": String,
    "MachineIdentifyType": String,
    "GroupAttribute": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
GroupType	String	No	No	The type of the machine group.	This parameter value is null or Armory.
ProjectName	String	No	No	The name of the Log Service project.	The name can be up to 128 characters in length and can contain letters, digits, underscores(_), periods(.), and hyphens (-).
MachineList	List	No	No	The IP addresses or custom tags of machines in the machine group.	You can only add internal IP addresses of ECS instances to the machine group. **Notice** A single machine group cannot contain both Windows ECS instances and Linux ECS instances.
GroupName	String	No	No	The name of the machine group.	The name can be up to 128 characters in length and can contain letters, digits, underscores(_), periods(.), and hyphens (-).
MachineIdentifyType	String	No	No	The machine identification type.	Valid values: • ip • userdefined
GroupAttribute	String	No	No	The attributes of the machine group.	None

Response parameters

Fn::GetAtt

- ProjectName: the name of the Log Service project.
- GroupName: the name of the Log Service machine group.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MachineGroup": {
      "Type": "ALIYUN::SLS::MachineGroup",
      "Properties": {
        "ProjectName": "rostest-beijing",
        "GroupName": "machine-group-test2",
        "GroupType": "",
        "MachineIdentifyType": "ip",
        "GroupAttribute": '{
                "groupTopic": "testtopic",
                "externalName": "testgroup"
            }',
        "MachineList": ['192.168.XX.XX']
      }
    }
  },
  "Outputs": {
    "ProjectName": {
         "Value": {"Fn::GetAttr": ["MachineGroup","ProjectName"]}
    },
    "GroupName": {
         "Value": {"Fn::GetAttr": ["MachineGroup","GroupName"]}
    }
  }
}
```

66.TSDB

66.1. ALIYUN::TSDB::HiTSDBInstance

ALIYUN::TSDB::HiTSDBInstance is used to create a Time Series Database (TSDB) instance.

Syntax

```
{
  "Type": "ALIYUN::TSDB::HiTSDBInstance",
  "Properties": {
    "InstanceStorage": Integer,
    "ZoneId": String,
    "VPCId": String,
    "InstanceAlias": String,
    "PricingCycle": String,
    "SecurityIpList": List,
    "VSwitchId": String,
    "InstanceClass": String,
    "Duration": Integer,
    "PayType": String,
    "DiskCategory": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
ZoneId	String	Yes	No	The ID of the zone.	N/A
VPCId	String	Yes	No	The ID of the virtual private cloud (VPC).	N/A
InstanceAlias	String	No	Yes	The alias of the instance.	N/A
SecurityIpList	List	No	Yes	The IP address whitelist of the instance.	N/A
VSwitchId	String	Yes	No	The ID of the vSwitch.	N/A
InstanceClass	String	Yes	No	The instance type.	Valid values: • tsdb.1x.basic: Basic Edition I • tsdb.3x.basic: Basic Edition II • tsdb.4x.basic: Basic Edition III • tsdb.12x.standard: Standard Edition I • tsdb.24x.standard: Standard Edition II • tsdb.48x.large: Ultimate Edition I • tsdb.96x.large: Ultimate Edition II
InstanceStorage	Integer	Yes	No	The storage capacity of the instance.	Valid values: • A Basic Edition or Standard Edition instance: 40 to 6000. • An Ultimate Edition instance: 320 to 32000. Unit: GB.
PayType	String	No	No	The billing method of the instance.	Valid values: • POSTPAY: pay-as-you-go • PREPAY: subscription

Property	Type	Required	Editable	Description	Constraint
PricingCycle	String	No	No	The unit of the billing cycle for the subscription instance.	This property takes effect only if the PayType property is set to PREPAY. Valid values: • Month: This is the default value. • Year
Duration	Integer	No	No	The subscription duration.	Valid values: • If the PricingCycle property is set to Month: 1 to 9. • If the PricingCycle property is set to Year: 1 to 3.
DiskCategory	String	No	No	The disk type of TSDB for InfluxDB®®.	Valid values: • cloud_efficiency: ultra disk • cloud_ssd: SSD • cloud_essd: enhanced SSD (ESSD)

Response parameters

Fn::GetAtt

- InstanceId: the ID of the instance.
- ReverseVpcPort: the reverse VPC endpoint of the instance.
- ReverseVpcIp: the reverse IP address of the instance from a VPC.
- PublicConnectionString: the public connection string of the instance.
- EngineType: the type of the database engine.
- OrderId: the ID of the order.
- ConnectionString: the connection string of the database.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceStorage": {
      "Type": "Number",
      "Description": "The storage capacity of the instance. Unit: GB. For example, the value 50 indicates 50 GB.",
      "MinValue": 40,
      "MaxValue": 6000,
      "Default": 50
    },
    "ZoneId": {
      "Type": "String",
      "Description": "The zone ID of the instance.",
      "Default": "cn-hangzhou-i"
    },
    "VPCId": {
      "Type": "String",
      "Description": "The ID of the virtual private cloud (VPC) that is connected to the instance.",
      "Default": "vpc-wz9ydz3vg93s1ozsd****"
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The ID of the VSwitch in the specified VPC.",
      "Default": "vsw-wz9kv78f9cp47yadu****"
    },
    "InstanceClass": {
      "Type": "String",
      "Description": "The type of the instance. For more information, see Instance types:\ntsdb.1x.basic: Basic Edition I\ntsdb
.3x.basic: Basic Edition II\ntsdb.4x.basic: Basic Edition III\ntsdb.12x.standard: Standard Edition I\ntsdb.24x.standard: Standa
rd Edition II\ntsdb.48x.large: Ultimate Edition I\ntsdb.96x.large: Ultimate Edition II and so on.",
      "Default": "tsdb.1x.basic"
    }
  },
  "Resources": {
    "HiTSDBInstance": {
```

```
      "Type": "ALIYUN::TSDB::HiTSDBInstance",
      "Properties": {
        "InstanceStorage": {
          "Ref": "InstanceStorage"
        },
        "ZoneId": {
          "Ref": "ZoneId"
        },
        "VPCId": {
          "Ref": "VPCId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "InstanceClass": {
          "Ref": "InstanceClass"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The ID of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "InstanceId"
        ]
      }
    },
    "ReverseVpcPort": {
      "Description": "Reverse vpc port of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "ReverseVpcPort"
        ]
      }
    },
    "ReverseVpcIp": {
      "Description": "Reverse vpc ip of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "ReverseVpcIp"
        ]
      }
    },
    "PublicConnectionString": {
      "Description": "Public connection string of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "PublicConnectionString"
        ]
      }
    },
    "EngineType": {
      "Description": "Engine type of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "EngineType"
        ]
      }
    },
    "OrderId": {
      "Description": "Order id of created instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "OrderId"
        ]
      }
```

```
    },
    "ConnectionString": {
      "Description": "Connection string of the instance.",
      "Value": {
        "Fn::GetAtt": [
          "HiTSDBInstance",
          "ConnectionString"
        ]
      }
    }
  }
}
```

66.2. ALIYUN::TSDB::InfluxDBDatabase

ALIYUN::TSDB::InfluxDBDatabase is used to create a Time Series Database (TSDB) database.

Syntax

```
{
  "Type": "ALIYUN::TSDB::InfluxDBDatabase",
  "Properties": {
    "InstanceId": String,
    "DBName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the TSDB instance.	N/A
DBName	String	Yes	No	The name of the TSDB database.	The name can be up to 64 characters in length, and can contain lowercase letters, digits, and underscores (_). It must start with a lowercase letter and end with a lowercase letter or digit.

Response parameters

Fn::GetAtt

- InstanceId: the ID of the TSDB instance.
- DBName: the name of the TSDB database.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of TSDB for InfluxDB.",
      "Default": "ts-wz99vz6u8jg39****"
    },
    "DBName": {
      "Type": "String",
      "Description": "The name of database. The name can at most be 64 characters in length and can contain lowercase letters,
digits, and underscores (_). It must start with a letter and end with a letter or digit.",
      "MinLength": 1,
      "MaxLength": 64,
      "Default": "test"
    }
  },
  "Resources": {
    "InfluxDBDatabase": {
      "Type": "ALIYUN::TSDB::InfluxDBDatabase",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "DBName": {
          "Ref": "DBName"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The ID of TSDB for InfluxDB.",
      "Value": {
        "Fn::GetAtt": [
          "InfluxDBDatabase",
          "InstanceId"
        ]
      }
    },
    "DBName": {
      "Description": "The name of database.",
      "Value": {
        "Fn::GetAtt": [
          "InfluxDBDatabase",
          "DBName"
        ]
      }
    }
  }
}
```

66.3. ALIYUN::TSDB::InfluxDBUser

ALIYUN::TSDB::InfluxDBUser is used to create a Time Series Database (TSDB) database account.

Syntax

```
{
  "Type": "ALIYUN::TSDB::InfluxDBUser",
  "Properties": {
    "UserName": String,
    "DatabasePermissions": List,
    "InstanceId": String,
    "UserType": String,
    "Password": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
UserName	String	Yes	No	The username of the database account.	The username must be 1 to 16 characters in length, and can contain lowercase letters, digits, and underscores (_). It must start with a lowercase letter and end with a lowercase letter or digit.
DatabasePermissions	List	No	Yes	The TSDB databases on which the database account has access permissions.	This property takes effect only if the UserType property is set to normal. For more information, see the DatabasePermissions properties section of this topic.
InstanceId	String	Yes	No	The ID of the TSDB instance.	N/A
UserType	String	Yes	No	The role assumed by the database account.	Valid values: • admin: administrator • normal: regular user
Password	String	Yes	Yes	The password.	The password must be 8 to 32 characters in length, and can contain letters, digits, and the following special characters: `! @ # $ % ^ * ( ) _ + - =`

DatabasePermissions syntax

```
"DatabasePermissions": [
  {
    "Permission": String,
    "DBName": String
  }
]
```

DatabasePermissions properties

Property	Type	Required	Editable	Description	Constraint
Permission	String	Yes	Yes	The permissions on the TSDB database.	Valid values: • read: read permissions • write: write permissions • all: read and write permissions
DBName	String	Yes	Yes	The name of the TSDB database.	The name must be 1 to 64 characters in length, and can contain lowercase letters, digits, and underscores (_). It must start with a lowercase letter and end with a lowercase letter or digit.

Response parameters

Fn::GetAtt

- UserName: the username of the database account.
- InstanceId: the ID of the TSDB instance.
- UserType: the role assumed by the database account.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "UserName": {
      "Type": "String",
      "Description": "The name of user. The name can at must be 16 characters in length and can contain lowercase letters, digi
ts, and underscores (_). It must start with a letter and end with a letter or digit.",
```

```
      "MinLength": 1,
      "MaxLength": 16,
      "Default": "test"
    },
    "DatabasePermissions": {
      "Type": "Json",
      "Description": "The list of databases that the user can access. If the user type is admin, do not specify this parameter.
",
      "Default": [
        {
          "Permission": "all",
          "DBName": "testDB"
        }
      ]
    },
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of TSDB for InfluxDB.",
      "Default": "ts-wz99vz6u8jg39****"
    },
    "UserType": {
      "Type": "String",
      "Description": "The type of user. Valid values:\nnormal: normal user\nadmin: administrator user.",
      "AllowedValues": [
        "normal",
        "admin"
      ],
      "Default": "normal"
    },
    "Password": {
      "Type": "String",
      "Description": "The password must be 8 to 32 characters in length and contain letters, digits, and special characters.!@#
$%^*()_+-=",
      "MinLength": 8,
      "MaxLength": 32,
      "Default": "Test_Pwd"
    }
  },
  "Resources": {
    "InfluxDBUser": {
      "Type": "ALIYUN::TSDB::InfluxDBUser",
      "Properties": {
        "UserName": {
          "Ref": "UserName"
        },
        "DatabasePermissions": {
          "Ref": "DatabasePermissions"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "UserType": {
          "Ref": "UserType"
        },
        "Password": {
          "Ref": "Password"
        }
      }
    }
  },
  "Outputs": {
    "UserName": {
      "Description": "The name of user.",
      "Value": {
        "Fn::GetAtt": [
          "InfluxDBUser",
          "UserName"
        ]
      }
    },
    "InstanceId": {
      "Description": "The ID of TSDB for InfluxDB.",
      "Value": {
        "Fn::GetAtt": [
```

```
          "InfluxDBUser",
          "InstanceId"
        ]
      }
    },
    "UserType": {
      "Description": "The type of user.",
      "Value": {
        "Fn::GetAtt": [
          "InfluxDBUser",
          "UserType"
        ]
      }
    }
  }
}
```

67.VPC

67.1. ALIYUN::VPC::AnycastEIP

ALIYUN::VPC::AnycastEIP is used to create an Anycast elastic IP address (Anycast EIP).

Syntax

```
{
  "Type": "ALIYUN::VPC::AnycastEIP",
  "Properties": {
    "Description": String,
    "ServiceLocation": String,
    "InstanceChargeType": String,
    "InternetChargeType": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the Anycast EIP.	None
ServiceLocation	String	No	No	The area from which you can use the Anycast EIP to access the backend server over the Internet.	Set the value to international. This value specifies regions outside mainland China.
InstanceChargeType	String	No	No	The billing method of the Anycast EIP.	Set the value to PostPaid. This value specifies the pay-as-you-go billing method.
InternetChargeType	String	No	No	The billing method for network usage of the Anycast EIP.	Set the value to PayByTraffic. This value specifies the pay-by-traffic billing method for network usage.
Name	String	No	Yes	The name of the Anycast EIP.	The name must be 2 to 128 characters in length and can contain letters, digits, hyphens (-), and underscores (_). It must start with a letter.

Response parameters

Fn::GetAtt

- AnycastId: the ID of the Anycast EIP.
- IpAddress: the public IP address allocated to the Anycast EIP.
- OrderId: the order ID.
- Name: the name of the Anycast EIP.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Anycast EIP instance description"
    },
    "ServiceLocation": {
      "Type": "String",
      "Description": "Anycast EIP instance access area",
      "AllowedValues": [
```

```
        "international"
      ],
      "Default": "international"
    },
    "InstanceChargeType": {
      "Type": "String",
      "Description": "Anycast EIP instance charge type",
      "AllowedValues": [
        "PostPaid"
      ]
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "Anycast EIP instance access public network billing method",
      "AllowedValues": [
        "PayByTraffic"
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "Anycast EIP instance name"
    }
  },
  "Resources": {
    "AnycastEip": {
      "Type": "ALIYUN::VPC::AnycastEIP",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "ServiceLocation": {
          "Ref": "ServiceLocation"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "AnycastId": {
      "Description": "Anycast EIP instance ID",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEip",
          "AnycastId"
        ]
      }
    },
    "IpAddress": {
      "Description": "Anycase IP address",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEip",
          "IpAddress"
        ]
      }
    },
    "OrderId": {
      "Description": "Order ID",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEip",
          "OrderId"
        ]
      }
    },
    "Name": {
```

```
      "Description": "Anycast EIP instance name",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEip",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: Anycast EIP instance description
    Type: String
  InstanceChargeType:
    AllowedValues:
    - PostPaid
    Description: Anycast EIP instance charge type
    Type: String
  InternetChargeType:
    AllowedValues:
    - PayByTraffic
    Description: Anycast EIP instance access public network billing method
    Type: String
  Name:
    Description: Anycast EIP instance name
    Type: String
  ServiceLocation:
    AllowedValues:
    - international
    Default: international
    Description: Anycast EIP instance access area
    Type: String
Resources:
  AnycastEip:
    Properties:
      Description:
        Ref: Description
      InstanceChargeType:
        Ref: InstanceChargeType
      InternetChargeType:
        Ref: InternetChargeType
      Name:
        Ref: Name
      ServiceLocation:
        Ref: ServiceLocation
    Type: ALIYUN::VPC::AnycastEIP
Outputs:
  AnycastId:
    Description: Anycast EIP instance ID
    Value:
      Fn::GetAtt:
      - AnycastEip
      - AnycastId
  IpAddress:
    Description: Anycase IP address
    Value:
      Fn::GetAtt:
      - AnycastEip
      - IpAddress
  Name:
    Description: Anycast EIP instance name
    Value:
      Fn::GetAtt:
      - AnycastEip
      - Name
  OrderId:
    Description: Order ID
    Value:
      Fn::GetAtt:
      - AnycastEip
      - OrderId
```

67.2. ALIYUN::VPC::AnycastEIPAssociation

ALIYUN::VPC::AnycastEIPAssociation is used to associate an Anycast elastic IP address (Anycast EIP) with a cloud resource in a specific region.

Syntax

```
{
  "Type": "ALIYUN::VPC::AnycastEIPAssociation",
  "Properties": {
    "BindInstanceId": String,
    "BindInstanceRegionId": String,
    "BindInstanceType": String,
    "AnycastId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
BindInstanceId	String	Yes	No	The ID of the cloud resource with which you want to associate the Anycast EIP.	None
BindInstanceRegionId	String	Yes	No	The region ID of the cloud resource with which you want to associate the Anycast EIP.	None
BindInstanceType	String	Yes	No	The type of the cloud resource with which you want to associate the Anycast EIP.	Set the value to SlbInstance. You can associate Anycast EIPs with only internal-facing Server Load Balancer (SLB) instances. SLB instances only in the following regions can be associated. • cn-hongkong: China (Hong Kong) • eu-west-1: UK (London) • eu-central-1: Germany (Frankfurt) • us-east-1: US (Virginia) • us-west-1: US (Silicon Valley) • ap-south-1: India (Mumbai) • ap-southeast-1: Singapore • ap-southeast-3: Malaysia (Kuala Lumpur) • ap-northeast-1: Japan (Tokyo)
AnycastId	String	Yes	No	The ID of the Anycast EIP.	None

Response parameters

Fn::GetAtt

- BindInstanceId: the ID of the cloud resource with which the Anycast EIP is associated.
- BindInstanceRegionId: the region ID of the cloud resource with which the Anycast EIP is associated.
- BindInstanceType: the type of the cloud resource with which the Anycast EIP is associated.
- AnycastId: the ID of the Anycast EIP.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "BindInstanceId": {
      "Type": "String",
      "Description": "The ID of the cloud resource instance to be bound."
    },
    "BindInstanceRegionId": {
      "Type": "String",
      "Description": "The region ID of the cloud resource instance to be bound."
    },
```

```
    "BindInstanceType": {
      "Type": "String",
      "Description": "The cloud resource instance type to be bound. Valid value: SlbInstance, SLB instance of private network t
ype."
    },
    "AnycastId": {
      "Type": "String",
      "Description": "Anycast EIP instance ID."
    }
  },
  "Resources": {
    "AnycastEIPAssociation": {
      "Type": "ALIYUN::VPC::AnycastEIPAssociation",
      "Properties": {
        "BindInstanceId": {
          "Ref": "BindInstanceId"
        },
        "BindInstanceRegionId": {
          "Ref": "BindInstanceRegionId"
        },
        "BindInstanceType": {
          "Ref": "BindInstanceType"
        },
        "AnycastId": {
          "Ref": "AnycastId"
        }
      }
    }
  },
  "Outputs": {
    "BindInstanceId": {
      "Description": "The ID of the cloud resource instance to be bound.",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEIPAssociation",
          "BindInstanceId"
        ]
      }
    },
    "BindInstanceRegionId": {
      "Description": "The region ID of the cloud resource instance to be bound.",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEIPAssociation",
          "BindInstanceRegionId"
        ]
      }
    },
    "BindInstanceType": {
      "Description": "The cloud resource instance type to be bound.",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEIPAssociation",
          "BindInstanceType"
        ]
      }
    },
    "AnycastId": {
      "Description": "Anycast EIP instance ID.",
      "Value": {
        "Fn::GetAtt": [
          "AnycastEIPAssociation",
          "AnycastId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AnycastId:
    Description: Anycast EIP instance ID.
    Type: String
  BindInstanceId:
    Description: The ID of the cloud resource instance to be bound.
    Type: String
  BindInstanceRegionId:
    Description: The region ID of the cloud resource instance to be bound.
    Type: String
  BindInstanceType:
    Description: 'The cloud resource instance type to be bound. Valid value: SlbInstance,
      SLB instance of private network type.'
    Type: String
Resources:
  AnycastEIPAssociation:
    Properties:
      AnycastId:
        Ref: AnycastId
      BindInstanceId:
        Ref: BindInstanceId
      BindInstanceRegionId:
        Ref: BindInstanceRegionId
      BindInstanceType:
        Ref: BindInstanceType
    Type: ALIYUN::VPC::AnycastEIPAssociation
Outputs:
  AnycastId:
    Description: Anycast EIP instance ID.
    Value:
      Fn::GetAtt:
      - AnycastEIPAssociation
      - AnycastId
  BindInstanceId:
    Description: The ID of the cloud resource instance to be bound.
    Value:
      Fn::GetAtt:
      - AnycastEIPAssociation
      - BindInstanceId
  BindInstanceRegionId:
    Description: The region ID of the cloud resource instance to be bound.
    Value:
      Fn::GetAtt:
      - AnycastEIPAssociation
      - BindInstanceRegionId
  BindInstanceType:
    Description: The cloud resource instance type to be bound.
    Value:
      Fn::GetAtt:
      - AnycastEIPAssociation
      - BindInstanceType
```

67.3. ALIYUN::VPC::CommonBandwidthPackage

ALIYUN::VPC::CommonBandwidthPackage is used to create an elastic IP address (EIP) bandwidth plan.

Syntax

```
{
  "Type": "ALIYUN::VPC::CommonBandwidthPackage",
  "Properties": {
    "Description": String,
    "Zone": String,
    "ISP": String,
    "ResourceGroupId": String,
    "Bandwidth": Integer,
    "InternetChargeType": String,
    "Name": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the EIP bandwidth plan.	The description must be 2 to 256 characters in length. It must start with a letter but cannot start with `http://` or `https://`.
Zone	String	No	No	The zone ID of the EIP bandwidth plan.	None.
ISP	String	No	No	The line type of the EIP.	Set the value to BGP, which specifies BGP (Multi-ISP).
ResourceGroupId	String	No	Yes	The ID of the resource group.	None.
Bandwidth	Integer	Yes	Yes	The maximum bandwidth of the EIP bandwidth plan.	Valid values: 2 to 5000. Unit: Mbit/s.
InternetChargeType	String	No	No	The metering method of the EIP bandwidth plan.	Default value: PayByBandwidth. Valid values: • PayByBandwidth: the pay-by-bandwidth metering method • PayBy95: the enhanced 95th percentile metering method
Name	String	No	Yes	The name of the EIP bandwidth plan.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter but cannot start with `http://` or `https://`.
Tags	List	No	Yes	The tags of the EIP bandwidth plan.	You can add up to 20 tags. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Field	Type	Required	Editable	Description	Constraint

Field	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length, and cannot contain `http://` or `https://`. It cannot start with `aliyun` or `acs:`.

Return values

Fn::GetAtt

BandwidthPackageId: the ID of the EIP bandwidth plan.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the Internet Shared Bandwidth instance.\nThe description must be 2 to 256 characters i
n length. It must start with a letter,\nand cannot start with http:// or https://.",
      "MinLength": 2,
      "MaxLength": 256
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group."
    },
    "Zone": {
      "Type": "String",
      "Description": "Zone Id."
    },
    "ISP": {
      "Type": "String",
      "Description": "Line type of EIP, value: BGP (multi-line).",
      "Default": "BGP"
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "The peak bandwidth of the Internet Shared Bandwidth instance. Unit: Mbit/s.",
      "MinValue": 2
    },
    "Ratio": {
      "Type": "Number",
      "Description": "The minimum consumption ratio of the Internet Shared Bandwidth instance, value: 20.\nNote This parameter
is only supported on the China site.",
        "Default": 20
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "The billing model of the Internet Shared Bandwidth instance. Allowed values:\nPayByBandwidth (default): B
illed by bandwidth.\nPayBy95: Charged at Enhanced 95."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the Internet Shared Bandwidth instance.\nThe name must be 2 to 128 characters in length and c
an contain letters, numbers, periods\n(.), underscores (_), and hyphens (-). The name must start with a letter, and cannot\nsta
rt with http:// or https://.",
      "MinLength": 2,
      "MaxLength": 128
```

```
    }
  },
  "Resources": {
    "CommonBandwidthPackage": {
      "Type": "ALIYUN::VPC::CommonBandwidthPackage",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "Zone": {
          "Ref": "Zone"
        },
        "ISP": {
          "Ref": "ISP"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "Ratio": {
          "Ref": "Ratio"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "BandwidthPackageId": {
      "Description": "The ID of the Internet Shared Bandwidth instance.",
      "Value": {
        "Fn::GetAtt": [
          "CommonBandwidthPackage",
          "BandwidthPackageId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Bandwidth:
    Description: 'The peak bandwidth of the Internet Shared Bandwidth instance. Unit:
      Mbit/s.'
    MinValue: 2
    Type: Number
  Description:
    Description: 'The description of the Internet Shared Bandwidth instance.
      The description must be 2 to 256 characters in length. It must start with a
      letter,
      and cannot start with http:// or https://.'
    MaxLength: 256
    MinLength: 2
    Type: String
  ISP:
    Default: BGP
    Description: 'Line type of EIP, value: BGP (multi-line).'
    Type: String
  InternetChargeType:
    Description: 'The billing model of the Internet Shared Bandwidth instance. Allowed
      values:
      PayByBandwidth (default): Billed by bandwidth.
```

```
      PayBy95: Charged at Enhanced 95.'
    Type: String
  Name:
    Description: 'The name of the Internet Shared Bandwidth instance.
      The name must be 2 to 128 characters in length and can contain letters, numbers,
      periods
      (.), underscores (_), and hyphens (-). The name must start with a letter, and
      cannot
      start with http:// or https://.'
    MaxLength: 128
    MinLength: 2
    Type: String
  Ratio:
    Default: 20
    Description: 'The minimum consumption ratio of the Internet Shared Bandwidth instance.
      Default to 20.
      Note This parameter is only supported on the China site.'
    Type: Number
  ResourceGroupId:
    Description: The ID of the resource group.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  Zone:
    Description: Zone Id.
    Type: String
Resources:
  CommonBandwidthPackage:
    Properties:
      Bandwidth:
        Ref: Bandwidth
      Description:
        Ref: Description
      ISP:
        Ref: ISP
      InternetChargeType:
        Ref: InternetChargeType
      Name:
        Ref: Name
      Ratio:
        Ref: Ratio
      ResourceGroupId:
        Ref: ResourceGroupId
      Tags:
        Ref: Tags
      Zone:
        Ref: Zone
    Type: ALIYUN::VPC::CommonBandwidthPackage
Outputs:
  BandwidthPackageId:
    Description: The ID of the Internet Shared Bandwidth instance.
    Value:
      Fn::GetAtt:
      - CommonBandwidthPackage
      - BandwidthPackageId
```

To view more examples, visit SnatEntry.json and SnatEntry.yml. In the examples, the ALIYUN::ECS::VPC, ALIYUN::ECS::VSwitch, ALIYUN::VPC::SnatEntry, ALIYUN::VPC::CommonBandwidthPackage, ALIYUN::VPC::CommonBandwidthPackageIp, ALIYUN::VPC::Ipv6Gateway, and ALIYUN::VPC::Ipv6InternetBandwidth resource types are involved.

67.4. ALIYUN::VPC::CommonBandwidthPackageIp

ALIYUN::VPC::CommonBandwidthPackageIp is used to add EIPs to the Internet shared bandwidth instance.

> **Note** When calling this operation to add an EIP, note the following:
> - Only pay-as-you-go EIPs can be added.
> - The EIP and the Internet shared bandwidth instance must be in the same region.

Statement

```
{
  "Type": "ALIYUN::VPC::CommonBandwidthPackageIp",
  "Properties": {
    "Eips": List,
    "BandwidthPackageId": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
Eips	List	Yes	No	The EIP to be added.	None.
BandwidthPackageId	String	Yes	No	The ID of the Internet shared bandwidth instance.	None.

Eips syntax

```
"Eips": [
  {
    "Bandwidth": Integer,
    "AllocationId": String
  }
]
```

Eips

Parameter	Type	Required	Editable	Description	Constraint
Bandwidth	Integer	Not granted	Not granted	The peak bandwidth.	0 indicates unlimited. Default value: 0.
AllocationId	String	Yes	No	The instance ID of the elastic IP address.	Valid values: 1025 to 10000. You cannot use the following commonly used port numbers: 2222, 4500, 4510, 4560, 7505, 9000, 9001, and 9002.

Return value

Fn::GetAtt

- AllocationIds: The IDs of all EIPs.
- IpAddresses: All EIPs.

Examples

JSON format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CommonBandwidthPackageIp": {
      "Type": "ALIYUN::VPC::CommonBandwidthPackageIp",
      "Properties": {
        "Eips": {
          "Ref": "Eips"
        },
        "BandwidthPackageId": {
          "Ref": "BandwidthPackageId"
        }
      }
    }
  },
  "Parameters": {
    "Eips": {
      "Type": "Json",
      "Description": "List of eip associated with the Internet Shared Bandwidth instance."
    },
    "BandwidthPackageId": {
      "Type": "String",
      "Description": "The ID of the Internet Shared Bandwidth instance."
    }
  },
  "Outputs": {
    "AllocationIds": {
      "Description": "All eip allocation ids of common bandwidth package.",
      "Value": {
        "Fn::GetAtt": [
          "CommonBandwidthPackageIp",
          "AllocationIds"
        ]
      }
    },
    "IpAddresses": {
      "Description": "All eip addresses of common bandwidth package.",
      "Value": {
        "Fn::GetAtt": [
          "CommonBandwidthPackageIp",
          "IpAddresses"
        ]
      }
    }
  }
}
```

YML example

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  CommonBandwidthPackageIp:
    Type: 'ALIYUN::VPC::CommonBandwidthPackageIp'
    Properties:
      Eips:
        Ref: Eips
      BandwidthPackageId:
        Ref: BandwidthPackageId
Parameters:
  Eips:
    Type: Json
    Description: List of eip associated with the Internet Shared Bandwidth instance.
  BandwidthPackageId:
    Type: String
    Description: The ID of the Internet Shared Bandwidth instance.
Outputs:
  AllocationIds:
    Description: All eip allocation ids of common bandwidth package.
    Value:
      'Fn::GetAtt':
        -CommonBandwidthPackageIp
        -AllocationIds
  IpAddresses:
    Description: All eip addresses of common bandwidth package.
    Value:
      'Fn::GetAtt':
        -CommonBandwidthPackageIp
        -IpAddresses
```

67.5. ALIYUN::VPC::BgpGroup

ALIYUN::VPC::BgpGroup is used to create a Border Gateway Protocol (BGP) (Multi-ISP) group for a specified virtual border router (VBR).

BGP groups allow VBRs to communicate with data centers. Each BGP group is associated with a VBR. You can add a BGP peer that needs to communicate with a VBR to the corresponding BGP group and advertise the BGP network in the VBR. BGP groups are used to simplify BGP configurations. You can reduce the configuration complexity by adding BGP peers that use the same configurations to one BGP group. You must use an autonomous system (AS) number to create a BGP group.

Note

- Only BGP4 is supported by the BGP groups.
- BGP groups support IPv4 BGP. IPv6 BGP is not supported.

Syntax

```
{
  "Type": "ALIYUN::VPC::BgpGroup",
  "Properties": {
    "Description": String,
    "LocalAsn": Integer,
    "AuthKey": String,
    "RouterId": String,
    "PeerAsn": Integer,
    "IsFakeAsn": Boolean,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the BGP group.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://` .
LocalAsn	Integer	No	Yes	The AS number of the cloud device.	None

Property	Type	Required	Editable	Description	Constraint
AuthKey	String	No	Yes	The authentication key of the BGP group.	None
RouterId	String	Yes	No	The ID of the VBR.	None
PeerAsn	Integer	No	Yes	The AS number of the on-premises device.	None
IsFakeAsn	Boolean	No	Yes	Specifies whether the AS number is fake.	Valid values: • true • false
Name	String	No	Yes	The name of the BGP group.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.

Response parameters

Fn::GetAtt

- BgpGroupId: the ID of the BGP group.
- Name: the name of the BGP group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the BGP group. The description must be 2 to 256 characters in length.\nIt must start w
ith a letter but cannot start with http:// or https://."
    },
    "LocalAsn": {
      "Type": "Number",
      "Description": "The AS number on the Alibaba Cloud side."
    },
    "AuthKey": {
      "Type": "String",
      "Description": "The authentication key of the BGP group."
    },
    "RouterId": {
      "Type": "String",
      "Description": "The ID of the VBR."
    },
    "PeerAsn": {
      "Type": "Number",
      "Description": "The AS number of the BGP peer."
    },
    "IsFakeAsn": {
      "Type": "Boolean",
      "Description": "A router that runs BGP typically belongs to only one AS. In some cases, for example,\nthe AS needs to be
migrated or is merged with another AS, a new AS number replaces\nthe original one.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the BGP group. The name must be 2 to 128 characters in length and can\ncontain digits, period
s (.), underscores (_), and hyphens (-). The name must start\nwith a letter but cannot start with http:// or https://."
```

```
    }
  },
  "Resources": {
    "BgpGroup": {
      "Type": "ALIYUN::VPC::BgpGroup",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "LocalAsn": {
          "Ref": "LocalAsn"
        },
        "AuthKey": {
          "Ref": "AuthKey"
        },
        "RouterId": {
          "Ref": "RouterId"
        },
        "PeerAsn": {
          "Ref": "PeerAsn"
        },
        "IsFakeAsn": {
          "Ref": "IsFakeAsn"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "BgpGroupId": {
      "Description": "The ID of the BGP group.",
      "Value": {
        "Fn::GetAtt": [
          "BgpGroup",
          "BgpGroupId"
        ]
      }
    },
    "Name": {
      "Description": "The name of the BGP group.",
      "Value": {
        "Fn::GetAtt": [
          "BgpGroup",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AuthKey:
    Description: The authentication key of the BGP group.
    Type: String
  Description:
    Description: 'The description of the BGP group. The description must be 2 to 256
      characters in length.
      It must start with a letter but cannot start with http:// or https://.'
    Type: String
  IsFakeAsn:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'A router that runs BGP typically belongs to only one AS. In some
      cases, for example,
      the AS needs to be migrated or is merged with another AS, a new AS number replaces
      the original one.'
    Type: Boolean
  LocalAsn:
    Description: The AS number on the Alibaba Cloud side.
    Type: Number
  Name:
    Description: 'The name of the BGP group. The name must be 2 to 128 characters
      in length and can
      contain digits, periods (.), underscores (_), and hyphens (-). The name must
      start
      with a letter but cannot start with http:// or https://.'
    Type: String
  PeerAsn:
    Description: The AS number of the BGP peer.
    Type: Number
  RouterId:
    Description: The ID of the VBR.
    Type: String
Resources:
  BgpGroup:
    Properties:
      AuthKey:
        Ref: AuthKey
      Description:
        Ref: Description
      IsFakeAsn:
        Ref: IsFakeAsn
      LocalAsn:
        Ref: LocalAsn
      Name:
        Ref: Name
      PeerAsn:
        Ref: PeerAsn
      RouterId:
        Ref: RouterId
    Type: ALIYUN::VPC::BgpGroup
Outputs:
  BgpGroupId:
    Description: The ID of the BGP group.
    Value:
      Fn::GetAtt:
      - BgpGroup
      - BgpGroupId
  Name:
    Description: The name of the BGP group.
    Value:
      Fn::GetAtt:
      - BgpGroup
      - Name
```

67.6. ALIYUN::VPC::BgpNetwork

ALIYUN::VPC::BgpNetwork is used to advertise a Border Gateway Protocol (BGP) network.

Syntax

```
{
  "Type": "ALIYUN::VPC::BgpNetwork",
  "Properties": {
    "DstCidrBlock": String,
    "RouterId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DstCidrBlock	String	Yes	No	The CIDR block of the virtual private cloud (VPC) or vSwitch that you want to connect to your data center.	None
RouterId	String	Yes	No	The ID of the router that is associated with the router interface.	None

Response parameters

Fn::GetAtt

- DstCidrBlock: the CIDR block of the VPC or vSwitch that you want to connect to your data center.
- RouterId: the ID of the router that is associated with the router interface.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DstCidrBlock": {
      "Type": "String",
      "Description": "The CIDR block of the virtual private cloud (VPC) or vSwitch that you want to connect\nto a data center."
    },
    "RouterId": {
      "Type": "String",
      "Description": "The ID of the vRouter associated with the router interface."
    }
  },
  "Resources": {
    "BgpNetwork": {
      "Type": "ALIYUN::VPC::BgpNetwork",
      "Properties": {
        "DstCidrBlock": {
          "Ref": "DstCidrBlock"
        },
        "RouterId": {
          "Ref": "RouterId"
        }
      }
    }
  },
  "Outputs": {
    "DstCidrBlock": {
      "Description": "The CIDR block of the virtual private cloud (VPC) or vSwitch that you want to connect\nto a data center."
,
      "Value": {
        "Fn::GetAtt": [
          "BgpNetwork",
          "DstCidrBlock"
        ]
      }
    },
    "RouterId": {
      "Description": "The ID of the vRouter associated with the router interface.",
      "Value": {
        "Fn::GetAtt": [
          "BgpNetwork",
          "RouterId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DstCidrBlock:
    Description: 'The CIDR block of the virtual private cloud (VPC) or vSwitch that
      you want to connect
      to a data center.'
    Type: String
  RouterId:
    Description: The ID of the vRouter associated with the router interface.
    Type: String
Resources:
  BgpNetwork:
    Properties:
      DstCidrBlock:
        Ref: DstCidrBlock
      RouterId:
        Ref: RouterId
    Type: ALIYUN::VPC::BgpNetwork
Outputs:
  DstCidrBlock:
    Description: 'The CIDR block of the virtual private cloud (VPC) or vSwitch that
      you want to connect
      to a data center.'
    Value:
      Fn::GetAtt:
      - BgpNetwork
      - DstCidrBlock
  RouterId:
    Description: The ID of the vRouter associated with the router interface.
    Value:
      Fn::GetAtt:
      - BgpNetwork
      - RouterId
```

67.7. ALIYUN::VPC::BgpPeer

ALIYUN::VPC::BgpPeer is used to add a Border Gateway Protocol (BGP) peer to a specific BGP group.

Syntax

```
{
  "Type": "ALIYUN::VPC::BgpPeer",
  "Properties": {
    "PeerIpAddress": String,
    "EnableBfd": Boolean,
    "BgpGroupId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PeerIpAddress	String	No	Yes	The IP address of the BGP peer.	None
EnableBfd	Boolean	No	Yes	Specifies whether to enable the Bidirectional Forwarding Detection (BFD) feature.	Valid values: • true: BFD is enabled. • false: BFD is disabled.
BgpGroupId	String	Yes	No	The ID of the BGP group.	None

Response parameters

Fn::GetAtt

BgpPeerId: the ID of the BGP peer.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeerIpAddress": {
      "Type": "String",
      "Description": "The IP address of the BGP peer."
    },
    "EnableBfd": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable the Bidirectional Forwarding Detection (BFD) feature.\nValid values:\ntrue: e
nables BFD.\nfalse: disables BFD.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "BgpGroupId": {
      "Type": "String",
      "Description": "The ID of the BGP group."
    }
  },
  "Resources": {
    "BgpPeer": {
      "Type": "ALIYUN::VPC::BgpPeer",
      "Properties": {
        "PeerIpAddress": {
          "Ref": "PeerIpAddress"
        },
        "EnableBfd": {
          "Ref": "EnableBfd"
        },
        "BgpGroupId": {
          "Ref": "BgpGroupId"
        }
      }
    }
  },
  "Outputs": {
    "BgpPeerId": {
      "Description": "The ID of the BGP peer.",
      "Value": {
        "Fn::GetAtt": [
          "BgpPeer",
          "BgpPeerId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  BgpGroupId:
    Description: The ID of the BGP group.
    Type: String
  EnableBfd:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Specifies whether to enable the Bidirectional Forwarding Detection
      (BFD) feature.
      Valid values:
      true: enables BFD.
      false: disables BFD.'
    Type: Boolean
  PeerIpAddress:
    Description: The IP address of the BGP peer.
    Type: String
Resources:
  BgpPeer:
    Properties:
      BgpGroupId:
        Ref: BgpGroupId
      EnableBfd:
        Ref: EnableBfd
      PeerIpAddress:
        Ref: PeerIpAddress
    Type: ALIYUN::VPC::BgpPeer
Outputs:
  BgpPeerId:
    Description: The ID of the BGP peer.
    Value:
      Fn::GetAtt:
      - BgpPeer
      - BgpPeerId
```

67.8. ALIYUN::VPC::CustomerGateway

ALIYUN::VPC::CustomerGateway is used to create a customer gateway.

Syntax

```
{
  "Type": "ALIYUN::VPC::CustomerGateway",
  "Properties": {
    "IpAddress": String,
    "Description": String,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
IpAddress	String	Yes	No	The IP address of the customer gateway.	None
Description	String	No	Yes	The description of the customer gateway.	The description must be 2 to 256 characters in length. It must start with a letter but cannot start with http:// or https://.

Property	Type	Required	Editable	Description	Constraint
Name	String	No	Yes	The name of the customer gateway.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter but cannot start with http:// or https://.

Response parameters

Fn::GetAtt

CustomerGatewayId: the ID of the customer gateway.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CustomerGateway": {
      "Type": "ALIYUN::VPC::CustomerGateway",
      "Properties": {
        "IpAddress": {
          "Ref": "IpAddress"
        },
        "Description": {
          "Ref": "Description"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Parameters": {
    "IpAddress": {
      "Type": "String",
      "Description": "The IP address of the user gateway."
    },
    "Description": {
      "MinLength": 2,
      "Type": "String",
      "Description": "Description of the user gateway. The length is 2-256 characters and must start with a letter or Chinese,
but cannot start with http:// or https://.",
      "MaxLength": 256
    },
    "Name": {
      "MinLength": 2,
      "Type": "String",
      "Description": "The name of the user gateway. The length is 2-128 characters and must start with a letter or Chinese. It
can contain numbers, periods (.), underscores (_), and dashes (-). But it can't start with http:// or https://.",
      "MaxLength": 128
    }
  },
  "Outputs": {
    "CustomerGatewayId": {
      "Description": "The ID of the user gateway.",
      "Value": {
        "Fn::GetAtt": [
          "CustomerGateway",
          "CustomerGatewayId"
        ]
      }
    }
  }
}
```

67.9. ALIYUN::VPC::DhcpOptionsSet

ALIYUN::VPC::DhcpOptionsSet is used to create Dynamic Host Configuration Protocol (DHCP) options sets.

Syntax

```
{
  "Type": "ALIYUN::VPC::DhcpOptionsSet",
  "Properties": {
    "DomainName": String,
    "DhcpOptionsSetName": String,
    "DhcpOptionsSetDescription": String,
    "DomainNameServers": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DomainName	String	No	No	The suffix of the hostname.	Example: example.com. After a DHCP options set is associated with a virtual private cloud (VPC), the root domain in the DHCP options set is automatically synchronized with the Elastic Compute Service (ECS) instances in the VPC.
DhcpOptionsSetName	String	No	Yes	The name of the DHCP options set.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter.
DhcpOptionsSetDescription	String	No	Yes	The description of the DHCP options set.	The description must be 2 to 256 characters in length and cannot start with `http://` or `https://`.
DomainNameServers	List	No	Yes	The DNS server IP addresses.	Up to four DNS server IP addresses can be specified. **Note** Before you specify any DNS server IP address, all ECS instances in the associated VPC network use the IP addresses of the Alibaba Cloud DNS servers, which are 100.100.2.136 and 100.100.2.138.

Response parameters

Fn::GetAtt

DhcpOptionsSetId: The ID of the DHCP options set that is created.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DomainName": {
      "Type": "String",
      "Description": "The root domain, for example, example.com.\nAfter a DHCP options set is associated with a Virtual Private
Cloud (VPC) network, the root domain in the DHCP options set is automatically synchronized to the ECS instances in the VPC netw
ork.",
      "Default": "example.com"
    },
    "DhcpOptionsSetName": {
      "Type": "String",
      "Description": "The name of the DHCP options set.\nThe name must be 2 to 128 characters in length and can contain letters
, Chinese characters, digits, underscores (_), and hyphens (-). It must start with a letter or a Chinese character.",
      "Default": "test"
    },
    "DhcpOptionsSetDescription": {
      "Type": "String",
      "Description": "The description of the DHCP options set.\nThe description must be 2 to 256 characters in length and canno
t start with http:// or https://.",
      "Default": "test"
    },
    "DomainNameServers": {
      "Type": "Json",
      "Description": "The DNS server IP addresses. Note Before you specify any DNS server IP address, all ECS instances in the
associated VPC network use the IP addresses of the Alibaba Cloud DNS servers, which are 100.100.2.136 and 100.100.2.138.",
      "Default": [
        "100.100.2.136",
        "100.100.2.138"
      ]
    }
  },
  "Resources": {
    "DhcpOptionsSet": {
      "Type": "ALIYUN::VPC::DhcpOptionsSet",
      "Properties": {
        "DomainName": {
          "Ref": "DomainName"
        },
        "DhcpOptionsSetName": {
          "Ref": "DhcpOptionsSetName"
        },
        "DhcpOptionsSetDescription": {
          "Ref": "DhcpOptionsSetDescription"
        },
        "DomainNameServers": {
          "Ref": "DomainNameServers"
        }
      }
    }
  },
  "Outputs": {
    "DhcpOptionsSetId": {
      "Description": "The ID of the DHCP options set that is created.",
      "Value": {
        "Fn::GetAtt": [
          "DhcpOptionsSet",
          "DhcpOptionsSetId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DomainName:
    Type: String
    Description: |-
      The root domain, for example, example.com.
      After a DHCP options set is associated with a Virtual Private Cloud (VPC) network, the root domain in the DHCP options se
t is automatically synchronized to the ECS instances in the VPC network.
    Default: example.com
  DhcpOptionsSetName:
    Type: String
    Description: |-
      The name of the DHCP options set.
      The name must be 2 to 128 characters in length and can contain letters, Chinese characters, digits, underscores (_), and
hyphens (-). It must start with a letter or a Chinese character.
    Default: test
  DhcpOptionsSetDescription:
    Type: String
    Description: |-
      The description of the DHCP options set.
      The description must be 2 to 256 characters in length and cannot start with http:// or https://.
    Default: test
  DomainNameServers:
    Type: Json
    Description: The DNS server IP addresses. Note Before you specify any DNS server
      IP address, all ECS instances in the associated VPC network use the IP addresses
      of the Alibaba Cloud DNS servers, which are 100.100.2.136 and 100.100.2.138.
    Default:
    - 100.100.2.136
    - 100.100.2.138
Resources:
  DhcpOptionsSet:
    Type: ALIYUN::VPC::DhcpOptionsSet
    Properties:
      DomainName:
        Ref: DomainName
      DhcpOptionsSetName:
        Ref: DhcpOptionsSetName
      DhcpOptionsSetDescription:
        Ref: DhcpOptionsSetDescription
      DomainNameServers:
        Ref: DomainNameServers
Outputs:
  DhcpOptionsSetId:
    Description: The ID of the DHCP options set that is created.
    Value:
      Fn::GetAtt:
      - DhcpOptionsSet
      - DhcpOptionsSetId
```

67.10. ALIYUN::VPC::DhcpOptionsSetAttachment

ALIYUN::VPC::DhcpOptionsSetAttachment is used to associate a Dynamic Host Configuration Protocol (DHCP) options set with a virtual private cloud (VPC).

Syntax

```
{
  "Type": "ALIYUN::VPC::DhcpOptionsSetAttachment",
  "Properties": {
    "DhcpOptionsSetId": String,
    "VpcId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
DhcpOptionsSetId	String	Yes	Yes	The ID of the DHCP options set. For more information about DHCP options sets, see Overview of DHCP options sets.	N/A
VpcId	String	Yes	No	The ID of the VPC that is associated with the DHCP options set.	N/A

Response parameters

Fn::GetAtt

- DhcpOptionsSetId: The ID of the DHCP options set.
- VpcId: The ID of the VPC that is associated with the DHCP options set.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "DhcpOptionsSetId": {
      "Type": "String",
      "Description": "The ID of the DHCP options set."
    },
    "VpcId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId"
    }
  },
  "Resources": {
    "DhcpOptionsSetAttachment": {
      "Type": "ALIYUN::VPC::DhcpOptionsSetAttachment",
      "Properties": {
        "DhcpOptionsSetId": {
          "Ref": "DhcpOptionsSetId"
        },
        "VpcId": {
          "Ref": "VpcId"
        }
      }
    }
  },
  "Outputs": {
    "DhcpOptionsSetId": {
      "Description": "The ID of the DHCP options set.",
      "Value": {
        "Fn::GetAtt": [
          "DhcpOptionsSetAttachment",
          "DhcpOptionsSetId"
        ]
      }
    },
    "VpcId": {
      "Description": "The ID of the VPC network.",
      "Value": {
        "Fn::GetAtt": [
          "DhcpOptionsSetAttachment",
          "VpcId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  DhcpOptionsSetId:
    Type: String
    Description: The ID of the DHCP options set.
  VpcId:
    Type: String
    AssociationProperty: ALIYUN::ECS::VPC::VPCId
Resources:
  DhcpOptionsSetAttachment:
    Type: ALIYUN::VPC::DhcpOptionsSetAttachment
    Properties:
      DhcpOptionsSetId:
        Ref: DhcpOptionsSetId
      VpcId:
        Ref: VpcId
Outputs:
  DhcpOptionsSetId:
    Description: The ID of the DHCP options set.
    Value:
      Fn::GetAtt:
      - DhcpOptionsSetAttachment
      - DhcpOptionsSetId
  VpcId:
    Description: The ID of the VPC network.
    Value:
      Fn::GetAtt:
      - DhcpOptionsSetAttachment
      - VpcId
```

67.11. ALIYUN::VPC::EIP

ALIYUN::VPC::EIP is used to apply for an elastic IP address (EIP).

Syntax

```
{
  "Type": "ALIYUN::VPC::EIP",
  "Properties": {
    "DeletionProtection": Boolean,
    "Name": String,
    "Tags": List,
    "Isp": String,
    "Netmode": String,
    "Period": Number,
    "ResourceGroupId": String,
    "AutoPay": Boolean,
    "InstanceChargeType": String,
    "PricingCycle": String,
    "Bandwidth": Number,
    "InternetChargeType": String,
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
DeletionProtection	Boolean	No	No	Specifies whether to enable the deletion protection feature.	Default value: false. Valid values: • true: enables the deletion protection feature. • false: does not enable the deletion protection feature.

Property	Type	Required	Editable	Description	Constraint
Name	String	No	Yes	The name of the EIP.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.
ResourceGroupId	String	No	Yes	The ID of the resource group.	None
Netmode	String	No	No	The network type.	Set the value to public, which indicates the Internet.
Bandwidth	Number	No	Yes	The bandwidth of the EIP. Unit: Mbit/s.	Default value: 5. If you do not specify this property, the default value is used.
InternetChargeType	String	No	No	The metering method of the EIP.	Default value: PayByBandwidth. Valid values: • PayByBandwidth • PayByTraffic
InstanceChargeType	String	No	No	The billing method of the EIP.	Default value: Postpaid. Valid values: • Prepaid • Postpaid
PricingCycle	String	No	No	The billing cycle of the EIP to which you are subscribed.	Default value: Month. Valid values: • Month • Year **Note** PricingCycle is required if InstanceChargeType is set to Prepaid.
Period	Number	No	No	The subscription duration.	• Valid values if PricingCycle is set to Month: 1 to 9. • Valid values if PricingCycle is set to Year: 1 to 3. Default value: 1. **Note** Period is required if InstanceChargeType is set to Prepaid.
AutoPay	Boolean	No	No	Specifies whether to enable automatic payment.	Default value: false. Valid values: • false: disables automatic payment. After an order is generated, you must go to the order center to complete the payment. For more information about the order center, go to the Orders page of the Billing Management console. • true: enables automatic payment. After an order is generated, the system deducts the payable amount from your account balance. **Note** AutoPay is required if InstanceChargeType is set to Prepaid.

Property	Type	Required	Editable	Description	Constraint
Isp	String	No	No	The line type.	Default value: BGP. Valid values: • BGP: BGP (Multi-ISP) lines • BGP_PRO: BGP (Multi-ISP) Pro lines BGP (Multi-ISP) lines are supported in all regions. BGP (Multi-ISP) Pro lines are supported only in the China (Hong Kong) region.
Description	String	No	Yes	The description of the EIP.	The description must be 2 to 256 characters in length. The description must start with a letter but cannot start with `http://` or `https://`.
Tags	List	No	Yes	The tags of the EIP.	Up to 20 tags can be specified. Each tag is a key-value pair. You can leave the tag value empty. For more information, see Tags syntax and Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- EipAddress: the allocated EIP.
- AllocationId: the ID of the instance to which the EIP is allocated.
- OrderId: the order ID, which is returned only when InstanceChargeType is set to Prepaid.
- Isp: the line type.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Optional. The description of the EIP. The description must be 2 to 256 characters in length. It must star
t with a letter. It cannot start with http://  or https://."
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group id."
    },
```

```
    "InstanceChargeType": {
      "Type": "String",
      "Description": "The resource charge type. Default value is Postpaid",
      "AllowedValues": [
        "Prepaid",
        "Postpaid"
      ],
      "Default": "Postpaid"
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "Price cycle of the resource. This property has no default value. If ChargeType is specified as Postpaid,
this value will be ignore.",
      "AllowedValues": [
        "Month",
        "Year"
      ],
      "Default": "Month"
    },
    "Isp": {
      "Type": "String",
      "Description": "The line type. You can set this parameter only when you create a pay-as-you-go EIP. Valid values:\nBGP: B
GP (Multi-ISP) lines. Up to 89 high-quality BGP lines are available worldwide. Direct connections with multiple Internet Servic
e Providers (ISPs), including Telecom, Unicom, Mobile, Railcom, Netcom, CERNET, China Broadcast Network, Dr. Peng, and Founder,
can be established in all regions in mainland China.\nBGP_PRO: BGP (Multi-ISP) Pro lines. BGP (Multi-ISP) Pro lines optimize da
ta transmission to China and improve connection quality for international services. Compared with traditional BGP (Multi-ISP) l
ines, BGP (Multi-ISP) Pro lines can be used to establish direct connections without using international ISP services. Therefore
, BGP (Multi-ISP) Pro lines reduce network latency."
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. While choose by pay by month, it could be from 1 to 9 or 12, 24, 36. \n  While choos
e pay by year, it could be from 1 to 3.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36
      ],
      "Default": 1
    },
    "DeletionProtection": {
      "Type": "Boolean",
      "Description": "Whether to enable deletion protection.\nDefault to False.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Automatic Payment. Default is false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the EIP. The name must be 2 to 128 characters in length. It must start with a letter. It can
contain numbers, periods (.), underscores (_), and hyphens (-). It cannot start with http:// or https://."
```

```
contain numbers, periods (.), underscores (_), and hyphens (-). It cannot start with http:// or https://"
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "The network charge type. Support 'PayByBandwidth' and 'PayByTraffic' only. Default is PayByBandwidth. Pay
ByTraffic will charge by hour, PayByBandwidth will charge by day. ",
      "AllowedValues": [
        "PayByBandwidth",
        "PayByTraffic"
      ],
      "Default": "PayByBandwidth"
    },
    "Netmode": {
      "Type": "String",
      "Description": "The network type. Valid value: public (public network)."
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "Bandwidth for the output network. Default is 5MB.",
      "Default": 5
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to eip. Max support 20 tags to add during create eip. Each tag with two properties Key and
Value, and Key is required.",
      "MaxLength": 20
    }
  },
  "Resources": {
    "ElasticIp": {
      "Type": "ALIYUN::VPC::EIP",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "Isp": {
          "Ref": "Isp"
        },
        "Period": {
          "Ref": "Period"
        },
        "DeletionProtection": {
          "Ref": "DeletionProtection"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "Name": {
          "Ref": "Name"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "Netmode": {
          "Ref": "Netmode"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "Tags": {
          "Ref": "Tags"
        }
      }
    }
  },
  "Outputs": {
```

```
    "Isp": {
      "Description": "The line type.",
      "Value": {
        "Fn::GetAtt": [
          "ElasticIp",
          "Isp"
        ]
      }
    },
    "AllocationId": {
      "Description": "ID that Aliyun assigns to represent the allocation of the address for use with VPC. Returned only for VPC
elastic IP addresses.",
      "Value": {
        "Fn::GetAtt": [
          "ElasticIp",
          "AllocationId"
        ]
      }
    },
    "EipAddress": {
      "Description": "IP address of created EIP.",
      "Value": {
        "Fn::GetAtt": [
          "ElasticIp",
          "EipAddress"
        ]
      }
    },
    "OrderId": {
      "Description": "Order ID of prepaid EIP instance.",
      "Value": {
        "Fn::GetAtt": [
          "ElasticIp",
          "OrderId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoPay:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: Automatic Payment. Default is false.
    Type: Boolean
  Bandwidth:
    Default: 5
    Description: Bandwidth for the output network. Default is 5MB.
    Type: Number
  DeletionProtection:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to enable deletion protection.
      Default to False.'
    Type: Boolean
  Description:
    Description: Optional. The description of the EIP. The description must be 2 to
      256 characters in length. It must start with a letter. It cannot start with
      http://  or https://.
    Type: String
  InstanceChargeType:
```

```
    AllowedValues:
    - Prepaid
    - Postpaid
    Default: Postpaid
    Description: The resource charge type. Default value is Postpaid
    Type: String
  InternetChargeType:
    AllowedValues:
    - PayByBandwidth
    - PayByTraffic
    Default: PayByBandwidth
    Description: 'The network charge type. Support ''PayByBandwidth'' and ''PayByTraffic''
      only. Default is PayByBandwidth. PayByTraffic will charge by hour, PayByBandwidth
      will charge by day. '
    Type: String
  Isp:
    Description: 'The line type. You can set this parameter only when you create a
      pay-as-you-go EIP. Valid values:
      BGP: BGP (Multi-ISP) lines. Up to 89 high-quality BGP lines are available worldwide.
      Direct connections with multiple Internet Service Providers (ISPs), including
      Telecom, Unicom, Mobile, Railcom, Netcom, CERNET, China Broadcast Network, Dr.
      Peng, and Founder, can be established in all regions in mainland China.
      BGP_PRO: BGP (Multi-ISP) Pro lines. BGP (Multi-ISP) Pro lines optimize data
      transmission to China and improve connection quality for international services.
      Compared with traditional BGP (Multi-ISP) lines, BGP (Multi-ISP) Pro lines can
      be used to establish direct connections without using international ISP services.
      Therefore, BGP (Multi-ISP) Pro lines reduce network latency.'
    Type: String
  Name:
    Description: The name of the EIP. The name must be 2 to 128 characters in length.
      It must start with a letter. It can contain numbers, periods (.), underscores
      (_), and hyphens (-). It cannot start with http://  or https://
    Type: String
  Netmode:
    Description: 'The network type. Valid value: public (public network).'
    Type: String
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    Default: 1
    Description: "Prepaid time period. While choose by pay by month, it could be from\
      \ 1 to 9 or 12, 24, 36. \n  While choose pay by year, it could be from 1 to\
      \ 3."
    Type: Number
  PricingCycle:
    AllowedValues:
    - Month
    - Year
    Default: Month
    Description: Price cycle of the resource. This property has no default value.
      If ChargeType is specified as Postpaid, this value will be ignore.
    Type: String
  ResourceGroupId:
    Description: Resource group id.
    Type: String
  Tags:
    Description: Tags to attach to eip. Max support 20 tags to add during create eip.
      Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  ElasticIp:
    Properties:
```

```
      AutoPay:
        Ref: AutoPay
      Bandwidth:
        Ref: Bandwidth
      DeletionProtection:
        Ref: DeletionProtection
      Description:
        Ref: Description
      InstanceChargeType:
        Ref: InstanceChargeType
      InternetChargeType:
        Ref: InternetChargeType
      Isp:
        Ref: Isp
      Name:
        Ref: Name
      Netmode:
        Ref: Netmode
      Period:
        Ref: Period
      PricingCycle:
        Ref: PricingCycle
      ResourceGroupId:
        Ref: ResourceGroupId
      Tags:
        Ref: Tags
    Type: ALIYUN::VPC::EIP
Outputs:
  AllocationId:
    Description: ID that Aliyun assigns to represent the allocation of the address
      for use with VPC. Returned only for VPC elastic IP addresses.
    Value:
      Fn::GetAtt:
      - ElasticIp
      - AllocationId
  EipAddress:
    Description: IP address of created EIP.
    Value:
      Fn::GetAtt:
      - ElasticIp
      - EipAddress
  Isp:
    Description: The line type.
    Value:
      Fn::GetAtt:
      - ElasticIp
      - Isp
  OrderId:
    Description: Order ID of prepaid EIP instance.
    Value:
      Fn::GetAtt:
      - ElasticIp
      - OrderId
```

To view more examples, visit Eip.json and Eip.yml.

67.12. ALIYUN::VPC::EIPAssociation

ALIYUN::VPC::EIPAssociation is used to associate an elastic IP address (EIP) with a cloud service instance.

Syntax

```
{
  "Type": "ALIYUN::VPC::EIPAssociation",
  "Properties": {
    "AllocationId": String,
    "InstanceId": String,
    "PrivateIpAddress": String,
    "Mode": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
AllocationId	String	Yes	Yes	The ID of the EIP.	None
InstanceId	String	Yes	Yes	The ID of the cloud service instance.	The following types of instances are supported: • Elastic Compute Service (ECS) instances of the virtual private cloud (VPC) type • Server Load Balancer (SLB) instances of the VPC type • NAT gateways • High-availability virtual IP addresses (HAVIPs) • Elastic network interfaces (ENIs)
PrivateIpAddress	String	No	Yes	The private IP address in the CIDR block of the vSwitch.	If you do not set this property, the system allocates a private IP address based on the VPC ID and vSwitch ID.
Mode	String	No	Yes	The association mode.	Defaut value: NAT. Valid values: • NAT: the standard NAT gateway mode • MULTI_BINDED: the multi-EIP-to-ENI mode • BINDED: the cut-through mode

Return values

Fn::GetAtt

- EipAddress: the EIP.
- AllocationId: the ID of the EIP.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Description": {
    "en": "Create a VPC type ECS and bind EIP (existing VPC).",
  },
  "Parameters": {
    "VPC": {
      "AssociationProperty": "ALIYUN::ECS::VPC::VPCId",
      "Type": "String",
      "Description": {
        "en": "Please search the ID starting with (vpc-xxx) from console-Virtual Private Cloud.",
      },
      "Label": {
        "en": "VPC ID",
      }
    },
    "VSwitch": {
      "AssociationProperty": "ALIYUN::ECS::VSwitch::VSwitchId",
      "AssociationPropertyMetadata": {
        "VpcId": "VPC"
      },
      "Type": "String",
      "Description": {
        "en": "Existing VSwitch ID, query under console-VPC-VSwitch, <font color='red'>VSwitch must be under VPC. ECS will be c
reated under this VSwitch.</font>",
          </font>"
      },
      "Label": {
        "en": "VSwitch ID",
      }
    },
```

```
    "SecurityGroup": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::SecurityGroup::SecurityGroupId",
      "Description": {
        "en": "Please search the business security group ID starting with (sg-xxx) from console-ECS-Network & Security.",
          </font>"
      },
      "Label": {
        "en": "Business Security Group ID",
      },
      "AssociationPropertyMetadata": {
        "VpcId": "VPC"
      }
    },
    "ECSPassword": {
      "NoEcho": true,
      "Type": "String",
      "Description": {
        "en": "Server login password, Length 8-30, must contain three (Capital letters, lowercase letters, numbers, ()`~!@#$%^&
*_-+=|{}[]:;'<>,.?/ Special symbol in).",
      },
      "AllowedPattern": "[0-9A-Za-z\\_\\-\\&:;'<>,=%`~!@#\\(\\)\\$\\^\\*\\+\\|\\{\\}\\[\\]\\.\\?\\/]+$",
      "Label": {
        "en": "Instance Password",
      },
      "MinLength": 8,
      "ConstraintDescription": {
        "en": "Length 8-30, must contain three(Capital letters, lowercase letters, numbers, ()`~!@#$%^&*_-+=|{}[]:;'<>,.?/ Spec
ial symbol in).",
      },
      "MaxLength": 30,
      "Default": null
    },
    "EIPInternetChargeType": {
      "Type": "String",
      "AllowedValues": [
        "PayByBandwidth",
        "PayByTraffic"
      ],
      "Description": {
        "en": "The charge type of EIP, PayByBandwidth;PayByTraffic.",
      },
      "Label": {
        "en": "EIP Charge Type",
      },
      "Default": "PayByTraffic"
    },
    "ECSImageId": {
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::Instance::ImageId",
      "Description": {
        "en": "Image ID,Please use Centos7.",
      },
      "Label": {
        "en": "Image",
      },
      "Default": "ubuntu_14"
    },
    "ECSZoneId": {
      "AssociationProperty": "ALIYUN::ECS::Instance:ZoneId",
      "Type": "String",
      "Description": {
        "en": "Availability zone ID.<br><b>Note: <font color='blue'>Before selecting, please confirm whether the availability z
one supports the specification of creating ECS resources. It is recommended to be different from other switch availability zone
s</font></b ><br><font color='red'>The switch availability zone and the selected switch instance ID must be in the same availab
ility zone.</font>",
          </font>"
      },
      "Label": {
        "en": "VSwitch Availability Zone",
      }
    },
    "EIPBandwidth": {
      "Type": "Number",
      "Description": {
```

```
      "Description": {
        "en": "EIP Bandwidth, Value range: [1,200], unit: Mbps.",
      },
      "MinValue": 1,
      "Label": {
        "en": "EIP Bandwidth",
      },
      "MaxValue": 200,
      "Default": 1
    },
    "ECSInstanceType": {
      "AssociationPropertyMetadata": {
        "ZoneId": "ECSZoneId",
        "InstanceChargeType": "InstanceChargeType"
      },
      "AssociationProperty": "ALIYUN::ECS::Instance::InstanceType",
      "Type": "String",
      "Description": {
        "en": "<font color='blue'><b>1.Before selecting the model please confirm that the current available zone under the mode
l is in stock, some models need to be reported in advance</b></font><br><font color='blue'><b>2.List of optional models</font><
br></b></font>[ecs.c5.large <font color='green'>2vCPU 4GiB Intranet bandwidth1Gbps In-grid sending and receiving packages30Mill
ionPPS</font>]<br></b>[ecs.c5.xlarge <font color='green'>4vCPU 8GiB Intranet bandwidth1.5Gbps In-grid sending and receiving pac
kages50MillionPPS</font>]<br></b>[ecs.c5.2xlarge <font color='green'>8vCPU 16GiB Intranet bandwidth2.5Gbps In-grid sending and
receiving packages80MillionPPS</font>]",
            </font>]"
      },
      "Label": {
        "en": "Instance Type",
      }
    },
    "ECSDiskCategory": {
      "Type": "String",
      "Description": {
        "en": "<font color='blue'><b>Optional values:</b></font><br>[cloud_efficiency: <font color='green'>Efficient Cloud Disk
</font>]<br>[cloud_ssd: <font color='green'>SSD Cloud Disk</font>]<br>[cloud_essd: <font color='green'>ESSD Cloud Disk</font>]<
br>[cloud: <font color='green'>Cloud Disk</font>]<br>[ephemeral_ssd: <font color='green'>Local SSD Cloud Disk</font>]",
      },
      "AssociationProperty": "ALIYUN::ECS::Disk::SystemDiskCategory",
      "AssociationPropertyMetadata": {
        "ZoneId": "ECSZoneId",
        "InstanceType": "ECSInstanceType"
      },
      "Label": {
        "en": "System Disk Type",
      }
    },
    "ECSSysDiskSize": {
      "Type": "Number",
      "Description": {
        "en": "System disk size, range of values: 40-500, units: GB.",
      },
      "MinValue": 40,
      "Label": {
        "en": "System Disk Space",
      },
      "MaxValue": 500,
      "Default": 40
    },
    "InstanceChargeType": {
      "Type": "String",
      "Label": {
        "en": "Instance Charge Type",
      },
      "Description": {
        "en": "<font color='blue'><b>Optional values:</b></font><br>[PostPaid: <font color='green'>Pay as you go.</font>]<br> [
PrePaid: <font color='green'>Prepaid, monthly subscription.</font>]",
          </font>]"
      },
      "AllowedValues": [
        "PostPaid",
        "PrePaid"
      ],
      "Default": "PostPaid"
    },
    "KeyPairName": {
```

```
      "Type": "String",
      "AssociationProperty": "ALIYUN::ECS::KeyPair::KeyPairName",
      "Label": {
        "en": "Key Pair Name",
      },
      "Description": {
        "en": "If it is a Windows ECS instance, ignore this parameter. The default is blank.<br>If you have filled in <font col
or='green'>key pair name</font>, <font color='green'>instance password< The content of /font> will still be set in the instance
, but the password login method in the Linux system will be forbidden.<br><font color='red'>Please enter the name of the existi
ng key pair. If you use the instance password Login, the key pair name does not need to be filled in.</font>",
             </font>"
      },
      "Default": null
    }
  },
  "Metadata": {
    "ALIYUN::ROS::Interface": {
      "ParameterGroups": [
        {
          "Parameters": [
            "VPC",
            "VSwitch",
            "SecurityGroup"
          ],
          "Label": {
            "default": "VPC "
          }
        },
        {
          "Parameters": [
            "EIPBandwidth",
            "EIPInternetChargeType"
          ],
          "Label": {
            "default": "EIP"
          }
        },
        {
          "Parameters": [
            "ECSZoneId",
            "ECSImageId",
            "ECSInstanceType",
            "ECSDiskCategory",
            "ECSSysDiskSize",
            "InstanceChargeType",
            "ECSPassword",
            "KeyPairName"
          ],
          "Label": {
            "default": "ECS"
          }
        }
      ],
      "TemplateTags": [
        "Specify the image Id and snapshot to create ECS instance."
      ]
    }
  },
  "Resources": {
    "ECSInstanceGroup": {
      "Type": "ALIYUN::ECS::InstanceGroup",
      "Properties": {
        "IoOptimized": "optimized",
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "ZoneId": {
          "Ref": "ECSZoneId"
        },
        "SystemDisk_Category": {
          "Ref": "ECSDiskCategory"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroup"
```

```
        },
        "VSwitchId": {
          "Ref": "VSwitch"
        },
        "MaxAmount": 1,
        "SystemDisk_Size": {
          "Ref": "ECSSysDiskSize"
        },
        "VpcId": {
          "Ref": "VPC"
        },
        "ImageId": {
          "Ref": "ECSImageId"
        },
        "InstanceType": {
          "Ref": "ECSInstanceType"
        },
        "AllocatePublicIP": "false",
        "Password": {
          "Ref": "ECSPassword"
        },
        "KeyPairName": {
          "Ref": "KeyPairName"
        }
      }
    },
    "ElasticIp": {
      "Type": "ALIYUN::VPC::EIP",
      "Properties": {
        "Bandwidth": {
          "Ref": "EIPBandwidth"
        },
        "InternetChargeType": {
          "Ref": "EIPInternetChargeType"
        }
      }
    },
    "ElasticIpAssociation": {
      "Type": "ALIYUN::VPC::EIPAssociation",
      "Properties": {
        "InstanceId": {
          "Fn::Select": [
            0,
            {
              "Fn::GetAtt": [
                "ECSInstanceGroup",
                "InstanceIds"
              ]
            }
          ]
        },
        "AllocationId": {
          "Ref": "ElasticIp"
        }
      }
    }
  },
  "Outputs": {
    "VpcId": {
      "Description": "VPC Id",
      "Value": {
        "Ref": "VPC"
      }
    },
    "SecurityGroupId": {
      "Description": "Security Group Id",
      "Value": {
        "Ref": "SecurityGroup"
      }
    },
    "VSwitchId": {
      "Description": "VSwitch Id",
      "Value": {
        "Ref": "VSwitch"
```

```
      }
    },
    "EipAddress": {
      "Description": "IP address of created EIP.",
      "Value": {
        "Fn::GetAtt": [
          "ElasticIp",
          "EipAddress"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Description:
  en: Create a VPC type ECS and bind EIP (existing VPC).
Parameters:
  VPC:
    AssociationProperty: ALIYUN::ECS::VPC::VPCId
    Type: String
    Description:
      en: Please search the ID starting with (vpc-xxx) from console-Virtual Private Cloud.
    Label:
      en: VPC ID
  VSwitch:
    AssociationProperty: ALIYUN::ECS::VSwitch::VSwitchId
    AssociationPropertyMetadata:
      VpcId: VPC
    Type: String
    Description:
      en: Existing VSwitch ID, query under console-VPC-VSwitch, <font color='red'>VSwitch must be under VPC. ECS will be create
d under this VSwitch.</font>
        </font>
    Label:
      en: VSwitch ID
  SecurityGroup:
    Type: String
    AssociationProperty: ALIYUN::ECS::SecurityGroup::SecurityGroupId
    Description:
      en: Please search the business security group ID starting with (sg-xxx) from console-ECS-Network & Security.
        </font>
    Label:
      en: Business Security Group ID
    AssociationPropertyMetadata:
      VpcId: VPC
  ECSPassword:
    NoEcho: true
    Type: String
    Description:
      en: Server login password, Length 8-30, must contain three (Capital letters, lowercase letters, numbers, ()`~!@#$%^&*_-+=
|{}[]:;'<>,.?/ Special symbol in).
    AllowedPattern: '[0-9A-Za-z\_\-\&:;''<>,=%`~!@#\(\)\$\^\*\+\|\{\}\[\]\.\?\/]+$'
    Label:
      en: Instance Password
    MinLength: 8
    ConstraintDescription:
      en: Length 8-30, must contain three (Capital letters, lowercase letters, numbers, ()`~!@#$%^&*_-+=|{}[]:;'<>,.?/ Special
symbol in).
    MaxLength: 30
    Default: Null
  EIPInternetChargeType:
    Type: String
    AllowedValues:
      - PayByBandwidth
      - PayByTraffic
    Description:
      en: The charge type of EIP, PayByBandwidth;PayByTraffic.
    Label:
      en: EIP Charge Type
    Default: PayByTraffic
  ECSImageId:
```

```
  ECSImageId:
    Type: String
    AssociationProperty: ALIYUN::ECS::Instance::ImageId
    Description:
      en: Image ID, Please use Centos7.
    Label:
      en: Image
    Default: ubuntu_14
  ECSZoneId:
    AssociationProperty: ALIYUN::ECS::Instance:ZoneId
    Type: String
    Description:
      en: 'Availability zone ID.<br><b>Note: <font color=''blue''>Before selecting, please confirm whether the availability zon
e supports the specification of creating ECS resources. It is recommended to be different from other switch availability zones<
/font></b ><br><font color=''red''>The switch availability zone and the selected switch instance ID must be in the same availab
ility zone.</font>'
        </font>
    Label:
      en: VSwitch Availability Zone
  EIPBandwidth:
    Type: Number
    Description:
      en: 'EIP Bandwidth, Value range: [1,200], unit: Mbps.'
    MinValue: 1
    Label:
      en: EIP Bandwidth
    MaxValue: 200
    Default: 1
  ECSInstanceType:
    AssociationPropertyMetadata:
      ZoneId: ECSZoneId
      InstanceChargeType: InstanceChargeType
    AssociationProperty: ALIYUN::ECS::Instance::InstanceType
    Type: String
    Description:
      en: <font color='blue'><b>1.Before selecting the model please confirm that the current available zone under the model is
in stock, some models need to be reported in advance</b></font><br><font color='blue'><b>2.List of optional models</font><br></
b></font>[ecs.c5.large <font color='green'>2vCPU 4GiB Intranet bandwidth1Gbps In-grid sending and receiving packages30MillionPP
S</font>]<br></b>[ecs.c5.xlarge <font color='green'>4vCPU 8GiB Intranet bandwidth1.5Gbps In-grid sending and receiving packages
50MillionPPS</font>]<br></b>[ecs.c5.2xlarge <font color='green'>8vCPU 16GiB Intranet bandwidth2.5Gbps In-grid sending and recei
ving packages80MillionPPS</font>]
          </font>]
    Label:
      en: Instance Type
  ECSDiskCategory:
    Type: String
    Description:
      en: '<font color=''blue''><b>Optional values:</b></font><br>[cloud_efficiency: <font color=''green''>Efficient Cloud Disk
</font>]<br>[cloud_ssd: <font color=''green''>SSD Cloud Disk</font>]<br>[cloud_essd: <font color=''green''>ESSD Cloud Disk</fon
t>]<br>[cloud: <font color=''green''>Cloud Disk</font>]<br>[ephemeral_ssd: <font color=''green''>Local SSD Cloud Disk</font>]'
    AssociationProperty: ALIYUN::ECS::Disk::SystemDiskCategory
    AssociationPropertyMetadata:
      ZoneId: ECSZoneId
      InstanceType: ECSInstanceType
    Label:
      en: System Disk Type
  ECSSysDiskSize:
    Type: Number
    Description:
      en: 'System disk size, range of values: 40-500, units: GB.'
    MinValue: 40
    Label:
      en: System Disk Space
    MaxValue: 500
    Default: 40
  InstanceChargeType:
    Type: String
    Label:
      en: Instance Charge Type
    Description:
      en: '<font color=''blue''><b>Optional values:</b></font><br>[PostPaid: <font color=''green''>Pay as you go.</font>]<br> [
PrePaid: <font color=''green''>Prepaid, monthly subscription.</font>]'
        </font>]'
    AllowedValues:
      - PostPaid
```

```
      - PrePaid
    Default: PostPaid
  KeyPairName:
    Type: String
    AssociationProperty: ALIYUN::ECS::KeyPair::KeyPairName
    Label:
      en: Key Pair Name
    Description:
      en: If it is a Windows ECS instance, ignore this parameter. The default is blank.<br>If you have filled in <font color='g
reen'>key pair name</font>, <font color='green'>instance password< The content of /font> will still be set in the instance, but
the password login method in the Linux system will be forbidden.<br><font color='red'>Please enter the name of the existing key
pair. If you use the instance password Login, the key pair name does not need to be filled in.</font>
           </font>
    Default: Null
Metadata:
  ALIYUN::ROS::Interface:
    ParameterGroups:
      - Parameters:
          - VPC
          - VSwitch
          - SecurityGroup
        Label:
          default: 'VPC '
      - Parameters:
          - EIPBandwidth
          - EIPInternetChargeType
        Label:
          default: EIP
      - Parameters:
          - ECSZoneId
          - ECSImageId
          - ECSInstanceType
          - ECSDiskCategory
          - ECSSysDiskSize
          - InstanceChargeType
          - ECSPassword
          - KeyPairName
        Label:
          default: ECS
    TemplateTags:
      - Specify the image Id and snapshot to create ECS instance.
Resources:
  ECSInstanceGroup:
    Type: ALIYUN::ECS::InstanceGroup
    Properties:
      IoOptimized: optimized
      InstanceChargeType:
        Ref: InstanceChargeType
      ZoneId:
        Ref: ECSZoneId
      SystemDisk_Category:
        Ref: ECSDiskCategory
      SecurityGroupId:
        Ref: SecurityGroup
      VSwitchId:
        Ref: VSwitch
      MaxAmount: 1
      SystemDisk_Size:
        Ref: ECSSysDiskSize
      VpcId:
        Ref: VPC
      ImageId:
        Ref: ECSImageId
      InstanceType:
        Ref: ECSInstanceType
      AllocatePublicIP: 'false'
      Password:
        Ref: ECSPassword
      KeyPairName:
        Ref: KeyPairName
  ElasticIp:
    Type: ALIYUN::VPC::EIP
    Properties:
      Bandwidth:
```

```
        Ref: EIPBandwidth
      InternetChargeType:
        Ref: EIPInternetChargeType
  ElasticIpAssociation:
    Type: ALIYUN::VPC::EIPAssociation
    Properties:
      InstanceId:
        Fn::Select:
          - 0
          - Fn::GetAtt:
              - ECSInstanceGroup
              - InstanceIds
      AllocationId:
        Ref: ElasticIp
Outputs:
  VpcId:
    Description: VPC Id
    Value:
      Ref: VPC
  SecurityGroupId:
    Description: Security Group Id
    Value:
      Ref: SecurityGroup
  VSwitchId:
    Description: VSwitch Id
    Value:
      Ref: VSwitch
  EipAddress:
    Description: IP address of created EIP.
    Value:
       Fn::GetAtt:
        - ElasticIp
        - EipAddress
```

67.13. ALIYUN::VPC::EIPSegment

ALIYUN::VPC::EIP is used to apply for contiguous elastic IP addresses (EIPs).

Syntax

```
{
  "Type": "ALIYUN::VPC::EIPSegment",
  "Properties": {
    "EipMask": Integer,
    "ResourceGroupId": String,
    "Netmode": String,
    "Bandwidth": Integer,
    "InternetChargeType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
EipMask	Integer	Yes	No	The subnet mask length for the contiguous EIPs.	Valid values: • 28: 16 contiguous EIPs are allocated for one call. • 27: 32 contiguous EIPs are allocated for one call. • 26: 64 contiguous EIPs are allocated for one call. • 25: 128 contiguous EIPs are allocated for one call. • 24: 256 contiguous EIPs are allocated for one call. **Note** The actual number of requested EIPs may be less than the expected number because one, three, or four EIPs may be reserved.
ResourceGroupId	String	No	No	The ID of the resource group.	None
Netmode	String	No	No	The network type of the EIPs.	Default value: public. Valid values: • public: the Internet. After contiguous EIPs are associated with cloud resources, the cloud resources can access the Internet by using the EIPs. • hybrid: a hybrid cloud. After contiguous EIPs are associated with cloud resources, the cloud resources can access the hybrid cloud by using the EIPs. **Note** This network type is available only to users who are included in the whitelist. To use this network type, contact your sales account manager.
Bandwidth	Integer	No	No	The maximum bandwidth of the EIPs.	Default value: 5. Unit: Mbit/s.
InternetChargeType	String	No	No	The billing method of the contiguous EIPs.	Default value: PayByBandwidth. Valid values: • PayByBandwidth • PayByTraffic **Note** When the Netmode parameter is set to hybrid, the InternetChangeType parameter can be set only to PayByBandwidth.

Response parameters

Fn::GetAtt

- EipSegmentInstanceId: the ID of the contiguous EIP group.
- EipAddresses: the EIPs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "EipMask": {
      "Type": "Number",
```

```
      "Description": "The mask of the contiguous EIP group. Valid values:\n28: 16 contiguous EIPs are allocated for one call.\n
27: 32 contiguous EIPs are allocated for one call.\n26: 64 contiguous EIPs are allocated for one call.\n25: 128 contiguous EIPs
are allocated for one call.\n24: 256 contiguous EIPs are allocated for one call.\nNote The actual number of assigned EIPs may b
e less than the expected number because one,\nthree, or four EIPs may be reserved.",
      "AllowedValues": [
        28,
        27,
        26,
        25,
        24
      ]
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "The ID of the resource group to which the EIPs belong."
    },
    "Netmode": {
      "Type": "String",
      "Description": "The network type. Valid values:\npublic: the Internet. This is the default value. After contiguous EIPs a
re associated with\ncloud resources, the cloud resources can access the Internet by using the EIPs.\nhybrid: the hybrid cloud.
After contiguous EIPs are associated with cloud resources, the\ncloud resources can access the hybrid cloud by using the EIPs.\
nNote This network type is available only to users who are added to the whitelist. To use\nthis network type, contact your cust
omer manager.",
      "AllowedValues": [
        "public",
        "hybrid"
      ]
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "The maximum bandwidth of the contiguous EIPs. Unit: Mbit/s. Default value: 5."
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "The metering method of the contiguous EIPs. Valid values:\nPayByBandwidth: Fees are charged based on band
width usage. This is the default value.\nPayByTraffic: Fees are charged based on data transfer.\nNote If the Netmode parameter
is set to hybrid, InternetChargeType is set to PayByBandwidth.",
      "AllowedValues": [
        "PayByBandwidth",
        "PayByTraffic"
      ]
    }
  },
  "Resources": {
    "EIPSegment": {
      "Type": "ALIYUN::VPC::EIPSegment",
      "Properties": {
        "EipMask": {
          "Ref": "EipMask"
        },
        "ResourceGroupId": {
          "Ref": "ResourceGroupId"
        },
        "Netmode": {
          "Ref": "Netmode"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        }
      }
    }
  },
  "Outputs": {
    "EipSegmentInstanceId": {
      "Description": "The ID of the contiguous EIP group.",
      "Value": {
        "Fn::GetAtt": [
          "EIPSegment",
          "EipSegmentInstanceId"
        ]
      }
```

```
    },
    "EipAddresses": {
      "Description": "List of EIP addresses. like [{\"AllocationId\": \"eip-xxx\", \"IpAddress\": \"xx.xx.xx.xx\"}]",
      "Value": {
        "Fn::GetAtt": [
          "EIPSegment",
          "EipAddresses"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Bandwidth:
    Description: 'The maximum bandwidth of the contiguous EIPs. Unit: Mbit/s. Default
      value: 5.'
    Type: Number
  EipMask:
    AllowedValues:
    - 28
    - 27
    - 26
    - 25
    - 24
    Description: 'The mask of the contiguous EIP group. Valid values:
      28: 16 contiguous EIPs are allocated for one call.
      27: 32 contiguous EIPs are allocated for one call.
      26: 64 contiguous EIPs are allocated for one call.
      25: 128 contiguous EIPs are allocated for one call.
      24: 256 contiguous EIPs are allocated for one call.
      Note The actual number of assigned EIPs may be less than the expected number
      because one,
      three, or four EIPs may be reserved.'
    Type: Number
  InternetChargeType:
    AllowedValues:
    - PayByBandwidth
    - PayByTraffic
    Description: 'The metering method of the contiguous EIPs. Valid values:
      PayByBandwidth: Fees are charged based on bandwidth usage. This is the default
      value.
      PayByTraffic: Fees are charged based on data transfer.
      Note If the Netmode parameter is set to hybrid, InternetChargeType is set to
      PayByBandwidth.'
    Type: String
  Netmode:
    AllowedValues:
    - public
    - hybrid
    Description: 'The network type. Valid values:
      public: the Internet. This is the default value. After contiguous EIPs are associated
      with
      cloud resources, the cloud resources can access the Internet by using the EIPs.
      hybrid: the hybrid cloud. After contiguous EIPs are associated with cloud resources,
      the
      cloud resources can access the hybrid cloud by using the EIPs.
      Note This network type is available only to users who are added to the whitelist.
      To use
      this network type, contact your customer manager.'
    Type: String
  ResourceGroupId:
    Description: The ID of the resource group to which the EIPs belong.
    Type: String
Resources:
  EIPSegment:
    Properties:
      Bandwidth:
        Ref: Bandwidth
      EipMask:
        Ref: EipMask
```

```
      InternetChargeType:
        Ref: InternetChargeType
      Netmode:
        Ref: Netmode
      ResourceGroupId:
        Ref: ResourceGroupId
    Type: ALIYUN::VPC::EIPSegment
Outputs:
  EipAddresses:
    Description: 'List of EIP addresses. like [{"AllocationId": "eip-xxx", "IpAddress":
      "xx.xx.xx.xx"}]'
    Value:
      Fn::GetAtt:
      - EIPSegment
      - EipAddresses
  EipSegmentInstanceId:
    Description: The ID of the contiguous EIP group.
    Value:
      Fn::GetAtt:
      - EIPSegment
      - EipSegmentInstanceId
```

67.14. ALIYUN::VPC::FlowLog

ALIYUN::VPC::FlowLog is used to create a flow log.

Syntax

```
{
  "Type": "ALIYUN::VPC::FlowLog",
  "Properties": {
    "FlowLogName": String,
    "Description": String,
    "LogStoreName": String,
    "ResourceId": String,
    "ProjectName": String,
    "ResourceType": String,
    "TrafficType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
FlowLogName	String	No	Yes	The name of the flow log.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
Description	String	No	Yes	The description of the flow log.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
LogStoreName	String	Yes	No	The name of the Logstore that stores the captured traffic data.	None

Property	Type	Required	Editable	Description	Constraint
ResourceId	String	Yes	No	The ID of the resource whose traffic you want to capture.	The IDs of virtual private clouds (VPCs), vSwitches, and elastic network interfaces (ENIs) are supported. You cannot create a flow log for a VPC that contains instances of the following instance families: ecs.c1, ecs.c2, ecs.c4, ecs.c5, ecs.ce4, ecs.cm4, ecs.d1, ecs.e3, ecs.e4, ecs.ga1, ecs.gn4, ecs.gn5, ecs.i1, ecs.m1, ecs.m2, ecs.mn4, ecs.n1, ecs.n2, ecs.n4, ecs.s1, ecs.s2, ecs.s3, ecs.se1, ecs.sn1, ecs.sn2, ecs.t1, and ecs.xn4. To create a flow log, you must upgrade the instance types first. For more information, see Change the instance type of a pay-as-you-go instance and Upgrade the instance types of subscription instances. **Note** If your VPC contains instances of the preceding instance families and you have created a flow log, you must upgrade the instance types to ensure that the flow log feature can take effect.
ProjectName	String	Yes	No	The name of the Log Service project that stores the captured traffic data.	None
ResourceType	String	Yes	No	The type of the resource whose traffic you want to capture.	Valid values: • NetworkInterface: Traffic data is captured from all ENIs. • VSwitch: Traffic data is captured from all ENIs that are attached to a specified vSwitch. • VPC: Traffic data is captured from all ENIs in a specified VPC.
TrafficType	String	Yes	No	The type of the traffic that you want to capture.	Valid values: • All: all traffic • Allow: traffic that is allowed by Resource Access Management (RAM) • Drop: traffic that is denied by RAM

Response parameters

Fn::GetAtt

- FlowLogName: the name of the flow log.
- Description: the description of the flow log.
- LogStoreName: the name of the Logstore.
- ResourceId: the resource ID.
- ProjectName: the name of the Log Service project.
- ResourceType: the resource type.
- FlowLogId: the ID of the flow log.
- TrafficType: the type of the traffic.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
```

```
    "FlowLogName": {
      "Type": "String",
      "Description": "The flow log name."
    },
    "Description": {
      "Type": "String",
      "Description": "The Description of flow log."
    },
    "LogStoreName": {
      "Type": "String",
      "Description": "The log store name."
    },
    "ResourceId": {
      "Type": "String",
      "Description": "The resource id."
    },
    "ProjectName": {
      "Type": "String",
      "Description": "The project name."
    },
    "ResourceType": {
      "Type": "String",
      "Description": "The resource type."
    },
    "TrafficType": {
      "Type": "String",
      "Description": "The traffic type."
    }
  },
  "Resources": {
    "VPCFlowLog": {
      "Type": "ALIYUN::VPC::FlowLog",
      "Properties": {
        "FlowLogName": {
          "Ref": "FlowLogName"
        },
        "Description": {
          "Ref": "Description"
        },
        "LogStoreName": {
          "Ref": "LogStoreName"
        },
        "ResourceId": {
          "Ref": "ResourceId"
        },
        "ProjectName": {
          "Ref": "ProjectName"
        },
        "ResourceType": {
          "Ref": "ResourceType"
        },
        "TrafficType": {
          "Ref": "TrafficType"
        }
      }
    }
  },
  "Outputs": {
    "FlowLogName": {
      "Description": "The flow log name.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "FlowLogName"
        ]
      }
    },
    "Description": {
      "Description": "The Description of flow log.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "Description"
        ]
```

```
      }
    },
    "LogStoreName": {
      "Description": "The log store name.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "LogStoreName"
        ]
      }
    },
    "ResourceId": {
      "Description": "The resource id.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "ResourceId"
        ]
      }
    },
    "ProjectName": {
      "Description": "The project name.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "ProjectName"
        ]
      }
    },
    "ResourceType": {
      "Description": "The resource type.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "ResourceType"
        ]
      }
    },
    "FlowLogId": {
      "Description": "The flow log ID.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "FlowLogId"
        ]
      }
    },
    "TrafficType": {
      "Description": "The traffic type.",
      "Value": {
        "Fn::GetAtt": [
          "VPCFlowLog",
          "TrafficType"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: The Description of flow log.
    Type: String
  FlowLogName:
    Description: The flow log name.
    Type: String
  LogStoreName:
    Description: The log store name.
    Type: String
  ProjectName:
    Description: The project name.
```

```
    Type: String
  ResourceId:
    Description: The resource id.
    Type: String
  ResourceType:
    Description: The resource type.
    Type: String
  TrafficType:
    Description: The traffic type.
    Type: String
Resources:
  VPCFlowLog:
    Properties:
      Description:
        Ref: Description
      FlowLogName:
        Ref: FlowLogName
      LogStoreName:
        Ref: LogStoreName
      ProjectName:
        Ref: ProjectName
      ResourceId:
        Ref: ResourceId
      ResourceType:
        Ref: ResourceType
      TrafficType:
        Ref: TrafficType
    Type: ALIYUN::VPC::FlowLog
Outputs:
  Description:
    Description: The Description of flow log.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - Description
  FlowLogId:
    Description: The flow log ID.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - FlowLogId
  FlowLogName:
    Description: The flow log name.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - FlowLogName
  LogStoreName:
    Description: The log store name.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - LogStoreName
  ProjectName:
    Description: The project name.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - ProjectName
  ResourceId:
    Description: The resource id.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - ResourceId
  ResourceType:
    Description: The resource type.
    Value:
      Fn::GetAtt:
      - VPCFlowLog
      - ResourceType
  TrafficType:
    Description: The traffic type.
    Value:
```

```
      Fn::GetAtt:
      - VPCFlowLog
      - TrafficType
```

67.15. ALIYUN::VPC::GrantInstanceToCen

ALIYUN::VPC::GrantInstanceToCen is used to authorize a CEN instance.

Syntax

```
{
  "Type": "ALIYUN::VPC::GrantInstanceToCen",
  "Properties": {
    "InstanceId": String,
    "CenOwnerId": Integer,
    "CenId": String,
    "InstanceType": String
  }
}
```

Properties

Property	Data type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the network instance.	None
CenOwnerId	Integer	Yes	No	The UID of the account to which the Cloud Enterprise Network instance belongs.	None
CenId	String	Yes	No	The instance ID of the Cloud Enterprise Network to be authorized.	None
InstanceType	String	Yes	No	The type of the attached network.	Valid values: • VPC: Virtual Private Cloud • VBR: Virtual Border Router • CCN: Cloud Connect Network (CCN)

Response parameters

Fn::GetAtt

- InstanceId: the ID of the network instance.
- CenId: indicates the ID of the Cloud Enterprise Network instance.

Example

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the network instance."
    },
    "CenOwnerId": {
      "Type": "Number",
      "Description": "The UID of the account to which the target CEN instance belongs."
    },
    "CenId": {
      "Type": "String",
      "Description": "The ID of the CEN instance to be authorized."
    },
    "InstanceType": {
      "Type": "String",
      "Description": "The type of the network instance. Valid values:\nVPC: Virtual Private Cloud (VPC).\nVBR: Virtual Border R
outer (VBR).\nCCN: Cloud Connect Network (CCN).",
      "AllowedValues": [
        "CCN",
        "VBR",
        "VPC"
      ]
    }
  },
  "Resources": {
    "GrantInstanceToCen": {
      "Type": "ALIYUN::VPC::GrantInstanceToCen",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "CenOwnerId": {
          "Ref": "CenOwnerId"
        },
        "CenId": {
          "Ref": "CenId"
        },
        "InstanceType": {
          "Ref": "InstanceType"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The ID of the network instance.",
      "Value": {
        "Fn::GetAtt": [
          "GrantInstanceToCen",
          "InstanceId"
        ]
      }
    },
    "CenId": {
      "Description": "The ID of the CEN instance to be authorized.",
      "Value": {
        "Fn::GetAtt": [
          "GrantInstanceToCen",
          "CenId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  InstanceId:
    Type: String
    Description: The ID of the network instance.
  CenOwnerId:
    Type: Number
    Description: The UID of the account to which the target CEN instance belongs.
  CenId:
    Type: String
    Description: The ID of the CEN instance to be authorized.
  InstanceType:
    Type: String
    Description: |-
      The type of the network instance. Valid values:
      VPC: Virtual Private Cloud (VPC).
      VBR: Virtual Border Router (VBR).
      CCN: Cloud Connect Network (CCN).
    AllowedValues:
      -CCN
      -VBR
      - VPC
Resources:
  GrantInstanceToCen:
    Type: 'ALIYUN::VPC::GrantInstanceToCen'
    Properties:
      InstanceId:
        Ref: InstanceId
      CenOwnerId:
        Ref: CenOwnerId
      CenId:
        Ref: CenId
      InstanceType:
        Ref: InstanceType
Outputs:
  InstanceId:
    Description: The ID of the network instance.
    Value:
      'Fn::GetAtt':
        -GrantInstanceToCen
        - InstanceId
  CenId:
    Description: The ID of the CEN instance to be authorized.
    Value:
      'Fn::GetAtt':
        -GrantInstanceToCen
        -CenId
```

67.16. ALIYUN::VPC::NatGateway

ALIYUN::VPC::NatGateway is used to create a NAT gateway.

Syntax

```
{
  "Type": "ALIYUN::VPC::NatGateway",
  "Properties": {
    "Description": String,
    "NatGatewayName": String,
    "InstanceChargeType": String,
    "PricingCycle": String,
    "VSwitchId": String,
    "Duration": Number,
    "DeletionProtection": Boolean,
    "InternetChargeType": String,
    "AutoPay": Boolean,
    "NatType": String,
    "DeletionForce": Boolean,
    "VpcId": String,
    "Tags": List,
    "NetworkType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the NAT gateway.	The description must be 2 to 256 characters in length, and cannot start with `http://` or `https://`.
NatGatewayName	String	No	No	The name of the NAT gateway.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`. If you do not specify this property, the gateway ID is used as the gateway name.
InstanceChargeType	String	No	No	The billing method of the NAT gateway.	Default value: PostPaid. Valid values: • PostPaid: the pay-as-you-go billing method • PrePaid: the subscription billing method
PricingCycle	String	No	No	The billing cycle of the subscription NAT gateway.	Default value: Month. Valid values: • Month • Year This property is required when you set the InstanceChargeType property to PrePaid.

Property	Type	Required	Editable	Description	Constraint
VSwitchId	String	Yes	No	The ID of the vSwitch to which the NAT gateway is attached.	When you create an enhanced NAT gateway, you must specify a vSwitch for the NAT gateway. Then, the system assigns an idle private IP address from the vSwitch to the NAT gateway. • If you want to create an enhanced NAT gateway that is attached to an existing vSwitch, you must make sure that the zone to which the vSwitch belongs supports enhanced NAT gateways. In addition, the vSwitch must have idle IP addresses. • If you want to create an enhanced NAT gateway when you do not have a vSwitch, you must create a vSwitch in a zone that supports enhanced NAT gateways. Then, you can specify the vSwitch for the enhanced NAT gateway. You can call the ListEnhanhcedNatGatewayAvailableZones operation to query the zones that support enhanced NAT gateways and call the DescribeVSwitches operation to query idle IP addresses in a vSwitch.
Duration	Number	No	No	The subscription duration.	• Valid values if you set the PricingCycle property to Month: 1 to 9. • Valid values if you set the PricingCycle property to Year: 1 to 3. This property is required when you set the InstanceChargeType property to PrePaid.
DeletionProtection	Boolean	No	No	Specifies whether to enable deletion protection.	Valid values: • true: enables deletion protection. • false: disables deletion protection.
InternetChargeType	String	No	No	The metering method of the NAT gateway.	Set the value to PayByLcu, which specifies the pay-by-CU metering method.
AutoPay	Boolean	No	No	Specifies whether to enable automatic payment.	Valid values: • false: disables automatic payment. After an order is generated, you must go to the order center to complete the payment. • true: enables automatic payment. After an order is generated, the system automatically deducts the payment from your account balance to pay for the order. This property is required when you set the InstanceChargeType property to PrePaid.
NatType	String	No	No	The type of the NAT gateway.	Set the value to Enhanced, which specifies an enhanced NAT gateway.
DeletionForce	Boolean	No	No	Specifies whether to force delete the NAT gateway.	Valid values: • true: force deletes the NAT gateway. • false: does not force delete the NAT gateway.

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC) in which you create the NAT gateway.	If you want to create a standard NAT gateway in a VPC, you must make sure that the route table of the VPC does not contain a route entry whose destination CIDR block is set to 0.0.0.0/0. If a route entry whose destination CIDR block is set to 0.0.0.0/0 exists, you must delete the route entry before you create the standard NAT gateway. **Note** The preceding limit does not apply when you create an enhanced NAT gateway in a VPC.
NetworkType	String	No	No	The network type of the NAT gateway.	Default value: Internet. Valid values: • Internet: an Internet NAT gateway • Intranet: a VPC NAT gateway
Tags	List	No	Yes	The tags.	You can bind up to 20 tags to the NAT gateway. For more information, see Tags syntax and Tags properties.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The key of the tag.	The tag key must be 1 to 64 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The key cannot contain `http://` or `https://`. The key cannot start with `acs:` or `aliyun`.
Value	String	No	No	The value of the tag.	The tag value must be 0 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The value cannot contain `http://` or `https://`. The value cannot start with `acs:` or `aliyun`.

Return values

Fn::GetAtt

- NatGatewayId: the ID of the NAT gateway.
- SNatTableId: the ID of the SNAT entry.
- ForwardTableId: the ID of the DNAT entry.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
```

```
    "Description": {
      "Type": "String",
      "Description": "Description of the NAT gateway, [2, 256] characters. Do not fill or empty, the default is empty."
    },
    "NatGatewayName": {
      "Type": "String",
      "Description": "Display name of the NAT gateway, [2, 128] English or Chinese characters, must start with a letter or Chin
ese in size, can contain numbers, '_' or '.', '-'"
    },
    "InstanceChargeType": {
      "Type": "String",
      "Description": "The billing method. The default value is PostPaid (which means pay-as-you-go).",
      "AllowedValues": [
        "PrePaid",
        "PostPaid"
      ],
      "Default": "PostPaid"
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "Price cycle of the resource. This property has no default value.",
      "AllowedValues": [
        "Month",
        "Year"
      ]
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The VSwitch id to create NAT gateway."
    },
    "Duration": {
      "Type": "Number",
      "Description": "The subscription duration. While choose by pay by month, it could be from 1 to 9. While choose pay by yea
r, it could be from 1 to 3.",
      "MinValue": 1,
      "MaxValue": 9,
      "Default": 1
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "The billing method for the NAT gateway. Valid values:\nPayByLcu: billed on a pay-by-LCU basis.",
      "AllowedValues": [
        "PayByLcu"
      ]
    },
    "DeletionProtection": {
      "Type": "Boolean",
      "Description": "Whether to enable deletion protection.\nDefault to False.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Specifies whether to enable automatic payment. Default is false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "NatType": {
      "Type": "String",
      "Description": "The type of the NAT gateway. Valid values:\n- Enhanced: enhanced NAT gateway.",
      "AllowedValues": [
        "Enhanced"
      ],
      "Default": "Enhanced"
    },
```

```
    },
    "DeletionForce": {
      "Type": "Boolean",
      "Description": "Whether force delete the relative snat and dnat entries in the net gateway and unbind eips. Default value
is false.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "VpcId": {
      "Type": "String",
      "Description": "The VPC id to create NAT gateway."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to natgateway. Max support 20 tags to add during create natgateway. Each tag with two prop
erties Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "NetworkType": {
      "Type": "String",
      "Description": "The type of NAT gateway created."
    }
  },
  "Resources": {
    "VpcNatGateway": {
      "Type": "ALIYUN::VPC::NatGateway",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "NatGatewayName": {
          "Ref": "NatGatewayName"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        },
        "Duration": {
          "Ref": "Duration"
        },
        "DeletionProtection": {
          "Ref": "DeletionProtection"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "NatType": {
          "Ref": "NatType"
        },
        "DeletionForce": {
          "Ref": "DeletionForce"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "NetworkType": {
          "Ref": "NetworkType"
        }
      }
```

```
    }
  },
  "Outputs": {
    "NatGatewayId": {
      "Description": "The Id of created NAT gateway.",
      "Value": {
        "Fn::GetAtt": [
          "VpcNatGateway",
          "NatGatewayId"
        ]
      }
    },
    "SNatTableId": {
      "Description": "The SNAT table id.",
      "Value": {
        "Fn::GetAtt": [
          "VpcNatGateway",
          "SNatTableId"
        ]
      }
    },
    "ForwardTableId": {
      "Description": "The forward table id.",
      "Value": {
        "Fn::GetAtt": [
          "VpcNatGateway",
          "ForwardTableId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Type: String
    Description: Description of the NAT gateway, [2, 256] characters. Do not fill
      or empty, the default is empty.
  NatGatewayName:
    Type: String
    Description: Display name of the NAT gateway, [2, 128] English or Chinese characters,
      must start with a letter or Chinese in size, can contain numbers, '_' or '.',
      '-'
  InstanceChargeType:
    Type: String
    Description: The billing method. The default value is PostPaid (which means pay-as-you-go).
    AllowedValues:
    - PrePaid
    - PostPaid
    Default: PostPaid
  PricingCycle:
    Type: String
    Description: Price cycle of the resource. This property has no default value.
    AllowedValues:
    - Month
    - Year
  VSwitchId:
    Type: String
    Description: The VSwitch id to create NAT gateway.
  Duration:
    Type: Number
    Description: The subscription duration. While choose by pay by month, it could
      be from 1 to 9. While choose pay by year, it could be from 1 to 3.
    MinValue: 1
    MaxValue: 9
    Default: 1
  InternetChargeType:
    Type: String
    Description: |-
      The billing method for the NAT gateway. Valid values:
```

```
      PayByLcu: billed on a pay-by-LCU basis.
    AllowedValues:
    - PayByLcu
  DeletionProtection:
    Type: Boolean
    Description: |-
      Whether to enable deletion protection.
      Default to False.
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
  AutoPay:
    Type: Boolean
    Description: Specifies whether to enable automatic payment. Default is false.
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
  NatType:
    Type: String
    Description: |-
      The type of the NAT gateway. Valid values:
      - Enhanced: enhanced NAT gateway.
    AllowedValues:
    - Enhanced
    Default: Enhanced
  DeletionForce:
    Type: Boolean
    Description: Whether force delete the relative snat and dnat entries in the net
      gateway and unbind eips. Default value is false.
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
  VpcId:
    Type: String
    Description: The VPC id to create NAT gateway.
  Tags:
    Type: Json
    Description: Tags to attach to natgateway. Max support 20 tags to add during create
      natgateway. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
  NetworkType:
    Type: String
    Description: The type of NAT gateway created.
Resources:
  VpcNatGateway:
    Type: ALIYUN::VPC::NatGateway
    Properties:
      Description:
        Ref: Description
      NatGatewayName:
        Ref: NatGatewayName
      InstanceChargeType:
        Ref: InstanceChargeType
      PricingCycle:
        Ref: PricingCycle
      VSwitchId:
        Ref: VSwitchId
      InternetChargeType:
        Ref: InternetChargeType
      Duration:
        Ref: Duration
      DeletionProtection:
        Ref: DeletionProtection
      AutoPay:
        Ref: AutoPay
      NatType:
```

```
      NatType:
        Ref: NatType
      DeletionForce:
        Ref: DeletionForce
      VpcId:
        Ref: VpcId
      Tags:
        Ref: Tags
      NetworkType:
        Ref: NetworkType
Outputs:
  NatGatewayId:
    Description: The Id of created NAT gateway.
    Value:
      Fn::GetAtt:
      - VpcNatGateway
      - NatGatewayId
  SNatTableId:
    Description: The SNAT table id.
    Value:
      Fn::GetAtt:
      - VpcNatGateway
      - SNatTableId
  ForwardTableId:
    Description: The forward table id.
    Value:
      Fn::GetAtt:
      - VpcNatGateway
      - ForwardTableId
```

To view more examples, visit NatGateway.json and NatGateway.yml.

67.17. ALIYUN::VPC::IpsecServer

ALIYUN::VPC::IpsecServer is used to create an IPsec-VPN server.

Syntax

```
{
  "Type": "ALIYUN::VPC::IpsecServer",
  "Properties": {
    "LocalSubnet": String,
    "EffectImmediately": Boolean,
    "ClientIpPool": String,
    "VpnGatewayId": String,
    "IpsecConfig": Map,
    "Psk": String,
    "IkeConfig": Map,
    "IpsecServerName": String,
    "PskEnabled": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
LocalSubnet	String	Yes	Yes	The local CIDR block. It refers to the CIDR block of the virtual private cloud (VPC) that is used to connect with the client.	Separate multiple CIDR blocks with commas (,). Example: 192.168.1.0/24,192.168.2.0/24.
EffectImmediately	Boolean	No	Yes	Specifies whether to delete the current IPsec tunnel and reinitiate negotiations.	Default value: false. Valid values: • true: initiates negotiations after the configuration is complete. • false: initiates negotiations when inbound traffic is detected.

Property	Type	Required	Editable	Description	Constraint
VpnGatewayId	String	Yes	No	The ID of the VPN gateway.	None
IpsecConfig	Map	No	Yes	The configurations of Phase 2 negotiations.	For more information, see IpsecConfig properties.
IkeConfig	Map	No	Yes	The configurations of Phase 1 negotiations.	For more information, see IkeConfig properties.
ClientIpPool	String	Yes	Yes	The CIDR block to be allocated to the virtual network interface of the client. It is not the CIDR block where the client resides.	When the client accesses the server by using an SSL-VPN connection, the VPN gateway selects an IP address from the specified CIDR block and assigns it to the client. This CIDR block cannot conflict with the CIDR block specified by LocalSubnet.
IpsecServerName	String	No	Yes	The name of the IPsec-VPN connection.	The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
Psk	String	No	Yes	The pre-shared key.	The key is used for authentication between the VPN gateway and the customer gateway. You can specify a key or use the default key that is randomly generated by the system. The key can be up to 100 characters in length.
PskEnabled	Boolean	No	Yes	Specifies whether to enable pre-shared key authentication.	Valid values: • true: Pre-shared key authentication is enabled. • false: Pre-shared key authentication is disabled.

IpsecConfig syntax

```
"IpsecConfig": {
  "IpsecPfs": String,
  "IpsecEncAlg": String,
  "IpsecAuthAlg": String,
  "IpsecLifetime": Integer
}
```

IpsecConfig properties

Property	Type	Required	Editable	Description	Constraint
IpsecPfs	String	No	Yes	The Diffie-Hellman key exchange algorithm used in Phase 2 negotiations. If you set this parameter, the system forwards packets of all protocols.	Default value: group2. Valid values: • group1 • group2 • group5 • group14 • group24

Property	Type	Required	Editable	Description	Constraint
IpsecEncAlg	String	No	Yes	The encryption algorithm that is used in Phase 2 negotiations.	Default value: aes. Valid values: • aes • aes192 • aes256 • des • 3des
IpsecAuthAlg	String	No	Yes	The authentication algorithm that is used in Phase 2 negotiations.	Default value: sha1. Valid values: • md5 • sha1
IpsecLifetime	Integer	No	Yes	The Security Association (SA) lifetime as a result of Phase 2 negotiations.	Valid values: 0 to 86400. Unit: seconds. Default value: 86400.

IkeConfig syntax

```
"IkeConfig": {
  "IkeAuthAlg": String,
  "LocalId": String,
  "IkeEncAlg": String,
  "IkeVersion": String,
  "IkeMode": String,
  "IkeLifetime": Integer,
  "RemoteId": String,
  "IkePfs": String
}
```

IkeConfig properties

Property	Type	Required	Editable	Description	Constraint
IkeAuthAlg	String	No	Yes	The authentication algorithm that is used in Phase 1 negotiations.	Default value: sha1. Valid values: • md5 • sha1
LocalId	String	No	Yes	The ID of the VPN gateway.	The ID can be up to 100 characters in length. The default value is the public IP address of the VPN gateway.
IkeEncAlg	String	No	Yes	The encryption algorithm that is used in Phase 1 negotiations.	Default value: aes. Valid values: • aes • aes192 • aes256 • des • 3des
IkeVersion	String	No	Yes	The version of the Internet Key Exchange (IKE) protocol.	Default value: ikev2. Valid values: • ikev1 • ikev2
IkeMode	String	No	Yes	The IKE negotiation mode.	Default value: main. Valid values: • main • aggressive
IkeLifetime	Integer	No	Yes	The SA lifetime as a result of Phase 1 negotiations.	Valid values: 0 to 86400. Unit: seconds. Default value: 86400.

Property	Type	Required	Editable	Description	Constraint
RemoteId	String	No	Yes	The ID of the customer gateway.	The ID can be up to 100 characters in length. The default value is the public IP address of the customer gateway.
IkePfs	String	No	Yes	The Diffie-Hellman key exchange algorithm that is used in Phase 1 negotiations.	Default value: group2. Valid values: • group1 • group2 • group5 • group14 • group24

Response parameters

Fn::GetAtt

- IpsecServerId: the ID of the IPsec-VPN server.
- IpsecServerName: the name of the IPsec-VPN server.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LocalSubnet": {
      "Type": "String",
      "Description": "The local network segment refers to the network segment on the VPC side that needs to be interconnected w
ith the client network segment. Use half-width commas (,) to separate multiple network segments, for example: 192.168.1.0/24,19
2.168.2.0/24."
    },
    "EffectImmediately": {
      "Type": "Boolean",
      "Description": "true: Apply the new configuration and trigger a reconnection immediately. \nfalse: Trigger a reconnection
only when network traffic occurs. (The reconnection may cause the network to be unavailable for a brief moment)",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "ClientIpPool": {
      "Type": "String",
      "Description": "Client network segment refers to the address segment that assigns access addresses to the virtual network
card of the client. Note: The client network segment cannot conflict with the VPC side network segment."
    },
    "VpnGatewayId": {
      "Type": "String",
      "Description": "VPN gateway instance ID."
    },
    "IpsecConfig": {
      "Type": "Json",
      "Description": "Negotiation parameter configuration in the second phase."
    },
    "Psk": {
      "Type": "String",
      "Description": "Pre-Shared key. Used for identity authentication between the VPN gateway and the client. A 16-bit random
string is randomly generated by default, or you can manually specify the key. The length is limited to 100 characters."
    },
    "IkeConfig": {
      "Type": "Json",
      "Description": "Negotiation parameter configuration in the first phase."
    },
    "IpsecServerName": {
      "Type": "String",
      "Description": "The value must be 2 to 128 characters in length and start with a letter or Chinese character. It can cont
ain digits, underscores (_), and hyphens (-)."
    },
    "PskEnabled": {
      "Type": "Boolean",
```

```
      "Description": "Whether to enable the pre-shared key authentication method. Only the value is true, which means that the
pre-shared key authentication mode is enabled.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    }
  },
  "Resources": {
    "IpsecServer": {
      "Type": "ALIYUN::VPC::IpsecServer",
      "Properties": {
        "LocalSubnet": {
          "Ref": "LocalSubnet"
        },
        "EffectImmediately": {
          "Ref": "EffectImmediately"
        },
        "ClientIpPool": {
          "Ref": "ClientIpPool"
        },
        "VpnGatewayId": {
          "Ref": "VpnGatewayId"
        },
        "IpsecConfig": {
          "Ref": "IpsecConfig"
        },
        "Psk": {
          "Ref": "Psk"
        },
        "IkeConfig": {
          "Ref": "IkeConfig"
        },
        "IpsecServerName": {
          "Ref": "IpsecServerName"
        },
        "PskEnabled": {
          "Ref": "PskEnabled"
        }
      }
    }
  },
  "Outputs": {
    "IpsecServerId": {
      "Description": "IPsec server ID.",
      "Value": {
        "Fn::GetAtt": [
          "IpsecServer",
          "IpsecServerId"
        ]
      }
    },
    "IpsecServerName": {
      "Description": "IPsec server name.",
      "Value": {
        "Fn::GetAtt": [
          "IpsecServer",
          "IpsecServerName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  ClientIpPool:
    Description: 'Client network segment refers to the address segment that assigns
      access addresses to the virtual network card of the client. Note: The client
```

```
      network segment cannot conflict with the VPC side network segment.'
    Type: String
  EffectImmediately:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: "true: Apply the new configuration and trigger a reconnection immediately.\
      \ \nfalse: Trigger a reconnection only when network traffic occurs. (The reconnection\
      \ may cause the network to be unavailable for a brief moment)"
    Type: Boolean
  IkeConfig:
    Description: Negotiation parameter configuration in the first phase.
    Type: Json
  IpsecConfig:
    Description: Negotiation parameter configuration in the second phase.
    Type: Json
  IpsecServerName:
    Description: The value must be 2 to 128 characters in length and start with a
      letter or Chinese character. It can contain digits, underscores (_), and hyphens
      (-).
    Type: String
  LocalSubnet:
    Description: 'The local network segment refers to the network segment on the VPC
      side that needs to be interconnected with the client network segment. Use half-width
      commas (,) to separate multiple network segments, for example: 192.168.1.0/24,192.168.2.0/24.'
    Type: String
  Psk:
    Description: Pre-Shared key. Used for identity authentication between the VPN
      gateway and the client. A 16-bit random string is randomly generated by default,
      or you can manually specify the key. The length is limited to 100 characters.
    Type: String
  PskEnabled:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: Whether to enable the pre-shared key authentication method. Only
      the value is true, which means that the pre-shared key authentication mode is
      enabled.
    Type: Boolean
  VpnGatewayId:
    Description: VPN gateway instance ID.
    Type: String
Resources:
  IpsecServer:
    Properties:
      ClientIpPool:
        Ref: ClientIpPool
      EffectImmediately:
        Ref: EffectImmediately
      IkeConfig:
        Ref: IkeConfig
      IpsecConfig:
        Ref: IpsecConfig
      IpsecServerName:
        Ref: IpsecServerName
      LocalSubnet:
        Ref: LocalSubnet
      Psk:
        Ref: Psk
      PskEnabled:
        Ref: PskEnabled
      VpnGatewayId:
        Ref: VpnGatewayId
    Type: ALIYUN::VPC::IpsecServer
Outputs:
  IpsecServerId:
    Description: IPsec server ID.
    Value:
      Fn::GetAtt:
      - IpsecServer
      - IpsecServerId
```

```
      - IpsecServerId
  IpsecServerName:
    Description: IPsec server name.
    Value:
      Fn::GetAtt:
      - IpsecServer
      - IpsecServerName
```

67.18. ALIYUN::VPC::Ipv6Gateway

ALIYUN::VPC::Ipv6Gateway is used to create an IPv6 gateway.

Syntax

```
{
  "Type": "ALIYUN::VPC::Ipv6Gateway",
  "Properties": {
    "Description": String,
    "VpcId": String,
    "Spec": String,
    "Name": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the IPv6 gateway.	The description must be 2 to 256 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
VpcId	String	Yes	No	The ID of the virtual private cloud (VPC) for which you want to create the IPv6 gateway.	None
Spec	String	No	Yes	The specification of the IPv6 gateway.	Default value: Small. Valid values: • Small: Free Edition • Medium: Enterprise Edition • Large: Enhanced Enterprise Edition
Name	String	No	Yes	The name of the IPv6 gateway.	The name must be 2 to 256 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
Tags	List	No	Yes	The tags of the IPv6 gateway.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

Ipv6GatewayId: the ID of the IPv6 gateway.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of IPv6 gateway.\nLength of 2 to 256 characters, must begin with a letter or Chinese, may con
tain numbers, numbers, underscore (_) and dot dash (-), but not at the http (.): // or https: // at the beginning ."
    },
    "VpcId": {
      "Type": "String",
      "Description": "To open VPC ID IPv6 gateway."
    },
    "Spec": {
      "Type": "String",
      "Description": "Specifications IPv6 gateway, the value:\nSmall (default): Free.\nMedium: Enterprise Edition.\nLarge: Ente
rprise Enhanced Edition.\nDifferent specifications of the IPv6 forwarding capability of the gateway is different. For more info
rmation, see IPv6 gateway specification."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Name": {
      "Type": "String",
      "Description": "Name of the IPv6 gateway.\nLength of 2 to 128 characters, beginning with a letter or Chinese, can contain
numbers, dot, underscore (_) and dash (-), but not at http (.): // or with https: // ."
    }
  },
  "Resources": {
    "Ipv6Gateway": {
      "Type": "ALIYUN::VPC::Ipv6Gateway",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Spec": {
          "Ref": "Spec"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Ipv6GatewayId": {
      "Description": "ID IPv6 gateway.",
      "Value": {
        "Fn::GetAtt": [
          "Ipv6Gateway",
          "Ipv6GatewayId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: 'Description of IPv6 gateway.
      Length of 2 to 256 characters, must begin with a letter or Chinese, may contain
      numbers, numbers, underscore (_) and dot dash (-), but not at the http (.):
      // or https: // at the beginning .'
    Type: String
  Name:
    Description: 'Name of the IPv6 gateway.
      Length of 2 to 128 characters, beginning with a letter or Chinese, can contain
      numbers, dot, underscore (_) and dash (-), but not at http (.): // or with https:
      // .'
    Type: String
  Spec:
    Description: 'Specifications IPv6 gateway, the value:
      Small (default): Free.
      Medium: Enterprise Edition.
      Large: Enterprise Enhanced Edition.
      Different specifications of the IPv6 forwarding capability of the gateway is
      different. For more information, see IPv6 gateway specification.'
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VpcId:
    Description: To open VPC ID IPv6 gateway.
    Type: String
Resources:
  Ipv6Gateway:
    Properties:
      Description:
        Ref: Description
      Name:
        Ref: Name
      Spec:
        Ref: Spec
      Tags:
        Ref: Tags
      VpcId:
        Ref: VpcId
    Type: ALIYUN::VPC::Ipv6Gateway
Outputs:
  Ipv6GatewayId:
    Description: ID IPv6 gateway.
    Value:
      Fn::GetAtt:
      - Ipv6Gateway
      - Ipv6GatewayId
```

For more examples, visit SnatEntry.json and SnatEntry.yml. In the examples, the ALIYUN::ECS::VPC, ALIYUN::ECS::VSwitch, ALIYUN::VPC::SnatEntry, ALIYUN::VPC::CommonBandwidthPackage, ALIYUN::VPC::CommonBandwidthPackageIp, ALIYUN::VPC::Ipv6Gateway, and ALIYUN::VPC::Ipv6InternetBandwidth resource types are involved.

67.19. ALIYUN::VPC::Ipv6InternetBandwidth

ALIYUN::VPC::Ipv6InternetBandwidth is used to purchase a public bandwidth plan for an IPv6 address.

Syntax

```
{
  "Type": "ALIYUN::VPC::Ipv6InternetBandwidth",
  "Properties": {
    "Bandwidth": Integer,
    "Ipv6AddressId": String,
    "Ipv6GatewayId": String,
    "InternetChargeType": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Bandwidth	Integer	Yes	Yes	The public bandwidth of the IPv6 address.	• Valid values when InternetChargeType is set to PayByBandwidth: 1 to 5000.
					• When InternetChargeType is set to PayByTraffic, the valid values of Bandwidth depend on the specification of the IPv6 gateway.
					  ○ Valid values when the specification is Small (Free Edition): 1 to 500.
					  ○ Valid values when the specification is Medium (Enterprise Edition): 1 to 1000.
					  ○ Valid values when the specification is Large (Enhanced Enterprise Edition): 1 to 2000.
					Unit: Mbit/s.

Ipv6AddressId	String	Yes	No	The ID of the IPv6 address.	None
Ipv6GatewayId	String	Yes	No	The ID of the IPv6 gateway.	None
InternetChargeType	String	No	No	The billing method of the public bandwidth resources of the IPv6 gateway.	Default value: PayByBandwidth. Valid values: • PayByTraffic • PayByBandwidth
Tags	List	No	Yes	The tags of the public bandwidth plan.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

InternetBandwidthId: the ID of the public bandwidth plan.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Bandwidth": {
      "Type": "Number",
      "Description": "Public IPv6 address of bandwidth, unit: Mbps, range: 1-5000.\nWhen InternetChargeType is PayByBandwidth,
the bandwidth of the public network is the IPv6 address 1-5000.\nWhen InternetChargeType is PayByTraffic, public network bandwi
dth IPv6 addresses while IPv6 gateway restricted specifications.\nSmall (default free version), the public network bandwidth ra
nge 1-500.\nMedium (Enterprise Edition), the public network bandwidth range from 1 to 1000.\nLarge (Enterprise Edition), the pu
blic network bandwidth range 1-2000.",
      "MinValue": 1,
      "MaxValue": 5000
    },
    "Ipv6AddressId": {
      "Type": "String",
      "Description": "ID of IPv6 address."
    },
    "Ipv6GatewayId": {
      "Type": "String",
      "Description": "ID of IPv6 gateway."
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "InternetChargeType": {
      "Type": "String",
      "Description": "IPv6 public network bandwidth billing, value:\nPayByTraffic: by using the traffic accounting.\nPayByBandw
idth (default): Bandwidth billing.",
      "AllowedValues": [
        "PayByTraffic",
        "PayByBandwidth"
      ]
    }
  },
  "Resources": {
    "Ipv6InternetBandwidth": {
      "Type": "ALIYUN::VPC::Ipv6InternetBandwidth",
      "Properties": {
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
        "Ipv6AddressId": {
          "Ref": "Ipv6AddressId"
        },
        "Ipv6GatewayId": {
          "Ref": "Ipv6GatewayId"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "InternetChargeType": {
          "Ref": "InternetChargeType"
        }
      }
    }
  },
  "Outputs": {
    "InternetBandwidthId": {
      "Description": "Purchase of public network bandwidth.",
      "Value": {
        "Fn::GetAtt": [
          "Ipv6InternetBandwidth",
          "InternetBandwidthId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Bandwidth:
    Description: 'Public IPv6 address of bandwidth, unit: Mbps, range: 1-5000.
      When InternetChargeType is PayByBandwidth, the bandwidth of the public network
      is the IPv6 address 1-5000.
      When InternetChargeType is PayByTraffic, public network bandwidth IPv6 addresses
      while IPv6 gateway restricted specifications.
      Small (default free version), the public network bandwidth range 1-500.
      Medium (Enterprise Edition), the public network bandwidth range from 1 to 1000.
      Large (Enterprise Edition), the public network bandwidth range 1-2000.'
    MaxValue: 5000
    MinValue: 1
    Type: Number
  InternetChargeType:
    AllowedValues:
    - PayByTraffic
    - PayByBandwidth
    Description: 'IPv6 public network bandwidth billing, value:
      PayByTraffic: by using the traffic accounting.
      PayByBandwidth (default): Bandwidth billing.'
    Type: String
  Ipv6AddressId:
    Description: ID of IPv6 address.
    Type: String
  Ipv6GatewayId:
    Description: ID of IPv6 gateway.
    Type: String
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
Resources:
  Ipv6InternetBandwidth:
    Properties:
      Bandwidth:
        Ref: Bandwidth
      InternetChargeType:
        Ref: InternetChargeType
      Ipv6AddressId:
        Ref: Ipv6AddressId
      Ipv6GatewayId:
        Ref: Ipv6GatewayId
      Tags:
        Ref: Tags
    Type: ALIYUN::VPC::Ipv6InternetBandwidth
Outputs:
  InternetBandwidthId:
    Description: Purchase of public network bandwidth.
    Value:
      Fn::GetAtt:
      - Ipv6InternetBandwidth
      - InternetBandwidthId
```

For more examples, visit SnatEntry.json and SnatEntry.yml. In the examples, the ALIYUN::ECS::VPC, ALIYUN::ECS::VSwitch, ALIYUN::VPC::SnatEntry, ALIYUN::VPC::CommonBandwidthPackage, ALIYUN::VPC::CommonBandwidthPackageIp, ALIYUN::VPC::Ipv6Gateway, and ALIYUN::VPC::Ipv6InternetBandwidth resource types are involved.

67.20. ALIYUN::VPC::NetworkAcl

ALIYUN::VPC::NetworkAcl is used to create a network access control list (ACL).

Syntax

```
{
  "Type": "ALIYUN::VPC::NetworkAcl",
  "Properties": {
    "NetworkAclName": String,
    "Description": String,
    "VpcId": String,
    "EgressAclEntries": List,
    "IngressAclEntries": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
NetworkAclName	String	No	Yes	The name of the network ACL.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`.
Description	String	No	Yes	The description of the network ACL.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
VpcId	String	Yes	No	The ID of the Virtual Private Cloud (VPC) to which you want to apply the network ACL.	You cannot create a network ACL for a VPC that contains instances of the following instance families: ecs.c1, ecs.c2, ecs.c4, ecs.c5, ecs.ce4, ecs.cm4, ecs.d1, ecs.e3, ecs.e4, ecs.ga1, ecs.gn4, ecs.gn5, ecs.i1, ecs.m1, ecs.m2, ecs.mn4, ecs.n1, ecs.n2, ecs.n4, ecs.s1, ecs.s2, ecs.s3, ecs.se1, ecs.sn1, ecs.sn2, ecs.t1, and ecs.xn4. To create a network ACL for such a VPC, you must upgrade the instance types first. For more information, see Change the instance type of a pay-as-you-go instance and Upgrade the instance types of subscription instances. **Note** If your VPC contains instances of the preceding instance families and you have created a network ACL, you must upgrade the instance types to ensure that the network ACL can take effect.
IngressAclEntries	List	No	Yes	The inbound rules of the network ACL.	A maximum of 20 rules can be specified. For more information, see IngressAclEntries properties.
EgressAclEntries	List	No	Yes	The outbound rules of the network ACL	A maximum of 20 rules can be specified. For more information, see EgressAclEntries properties.

IngressAclEntries syntax

```
"IngressAclEntries": [
  {
    "Policy": String,
    "Description": String,
    "EntryType": String,
    "SourceCidrIp": String,
    "Port": String,
    "Protocol": String,
    "NetworkAclEntryName": String
  }
]
```

IngressAclEntries properties

Property	Type	Required	Editable	Description	Constraint
Policy	String	Yes	Yes	The authorization policy.	Valid values: • accept: Access is allowed. • drop: Access is denied.
Description	String	No	Yes	The description of the inbound rule.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
EntryType	String	No	Yes	The type of the rule.	Default value: custom. Valid values: • custom: custom rules • system: system rules
SourceCidrIp	String	No	Yes	The source CIDR block.	None
Port	String	Yes	Yes	The range of source ports.	None
Protocol	String	Yes	Yes	The transport layer protocol.	Valid values: • icmp • gre • tcp • udp • all
NetworkAclEntryName	String	No	Yes	The name of the inbound rule.	None

EgressAclEntries syntax

```
"EgressAclEntries": [
  {
    "Policy": String,
    "Description": String,
    "EntryType": String,
    "DestinationCidrIp": String,
    "Port": String,
    "Protocol": String,
    "NetworkAclEntryName": String
  }
]
```

EgressAclEntries properties

Property	Type	Required	Editable	Description	Constraint
Policy	String	Yes	Yes	The authorization policy.	Valid values: • accept: Access is allowed. • drop: Access is denied.

Property	Type	Required	Editable	Description	Constraint
Description	String	No	Yes	The description of the outbound rule.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
EntryType	String	No	Yes	The type of the rule.	Default value: custom. Valid values: • custom: custom rules • system: system rules
DestinationCidrIp	String	No	Yes	The destination CIDR block.	None
Port	String	Yes	Yes	The range of destination ports.	None
Protocol	String	Yes	Yes	The transport layer protocol.	Valid values: • icmp • gre • tcp • udp • all
NetworkAclEntryName	String	No	Yes	The name of the outbound rule.	None

Response parameters

Fn::GetAtt

- NetworkAclId: the ID of the network ACL.
- NetworkAclEntryName: the name of the rule for the network ACL.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "IngressAclEntries": {
      "Type": "Json",
      "Description": "The list of ingress network ACL entries.",
      "MaxLength": 20
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the network ACL.\nThe description must be 2 to 256 characters in length. The descripti
on must start\nwith a letter but cannot start with http:// or https://."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the virtual private cloud (VPC) to which the network ACL belongs."
    },
    "EgressAclEntries": {
      "Type": "Json",
      "Description": "The list of egress network ACL entries.",
      "MaxLength": 20
    },
    "NetworkAclName": {
      "Type": "String",
      "Description": "The name of the network ACL.\nThe name must be 2 to 128 characters in length and can contain letters, dig
its, periods\n(.), underscores (_), and hyphens (-). The name must start with a letter and cannot\nstart with http:// or https:
//."
    }
  },
  "Resources": {
    "NetworkAcl": {
      "Type": "ALIYUN::VPC::NetworkAcl",
      "Properties": {
        "IngressAclEntries": {
          "Ref": "IngressAclEntries"
        },
        "Description": {
          "Ref": "Description"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "EgressAclEntries": {
          "Ref": "EgressAclEntries"
        },
        "NetworkAclName": {
          "Ref": "NetworkAclName"
        }
      }
    }
  },
  "Outputs": {
    "NetworkAclId": {
      "Description": "The ID of the network ACL.",
      "Value": {
        "Fn::GetAtt": [
          "NetworkAcl",
          "NetworkAclId"
        ]
      }
    },
    "NetworkAclEntryName": {
      "Description": "The name of the inbound rule.",
      "Value": {
        "Fn::GetAtt": [
          "NetworkAcl",
          "NetworkAclEntryName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: 'The description of the network ACL.
      The description must be 2 to 256 characters in length. The description must
      start
      with a letter but cannot start with http:// or https://.'
    Type: String
  EgressAclEntries:
    Description: The list of egress network ACL entries.
    MaxLength: 20
    Type: Json
  IngressAclEntries:
    Description: The list of ingress network ACL entries.
    MaxLength: 20
    Type: Json
  NetworkAclName:
    Description: 'The name of the network ACL.
      The name must be 2 to 128 characters in length and can contain letters, digits,
      periods
      (.), underscores (_), and hyphens (-). The name must start with a letter and
      cannot
      start with http:// or https://.'
    Type: String
  VpcId:
    Description: The ID of the virtual private cloud (VPC) to which the network ACL
      belongs.
    Type: String
Resources:
  NetworkAcl:
    Properties:
      Description:
        Ref: Description
      EgressAclEntries:
        Ref: EgressAclEntries
      IngressAclEntries:
        Ref: IngressAclEntries
      NetworkAclName:
        Ref: NetworkAclName
      VpcId:
        Ref: VpcId
    Type: ALIYUN::VPC::NetworkAcl
Outputs:
  NetworkAclEntryName:
    Description: The name of the inbound rule.
    Value:
      Fn::GetAtt:
      - NetworkAcl
      - NetworkAclEntryName
  NetworkAclId:
    Description: The ID of the network ACL.
    Value:
      Fn::GetAtt:
      - NetworkAcl
      - NetworkAclId
```

67.21. ALIYUN::VPC::NetworkAclAssociation

ALIYUN::VPC::NetworkAclAssociation is used to associate a network access control list (ACL) with a vSwitch.

Syntax

```
{
  "Type": "ALIYUN::VPC::NetworkAclAssociation",
  "Properties": {
    "NetworkAclId": String,
    "Resources": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
NetworkAclId	String	Yes	No	The description of the network ACL.	None
Resources	List	Yes	No	The resources associated with the network ACL.	A maximum of 20 resources can be associated. For more information, see Resources properties.

Resources syntax

```
"Resources": [
  {
    "ResourceId": String,
    "ResourceType": String
  }
]
```

Resources properties

Property	Type	Required	Editable	Description	Constraint
ResourceId	String	Yes	No	The ID of the resource.	None
ResourceType	String	No	No	The type of the resource.	Set the value to vSwitch.

Response parameters

Fn::GetAtt

NetworkAclId: the ID of the network ACL.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "NetworkAclId": {
      "Type": "String",
      "Description": "The ID of the network ACL."
    },
    "Resources": {
      "Type": "Json",
      "Description": "The list of resources that need to be associated with network ACL.",
      "MinLength": 1,
      "MaxLength": 20
    }
  },
  "Resources": {
    "NetworkAclAssociation": {
      "Type": "ALIYUN::VPC::NetworkAclAssociation",
      "Properties": {
        "NetworkAclId": {
          "Ref": "NetworkAclId"
        },
        "Resources": {
          "Ref": "Resources"
        }
      }
    }
  },
  "Outputs": {
    "NetworkAclId": {
      "Description": "The ID of the network ACL.",
      "Value": {
        "Fn::GetAtt": [
          "NetworkAclAssociation",
          "NetworkAclId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  NetworkAclId:
    Description: The ID of the network ACL.
    Type: String
  Resources:
    Description: The list of resources that need to be associated with network ACL.
    MaxLength: 20
    MinLength: 1
    Type: Json
Resources:
  NetworkAclAssociation:
    Properties:
      NetworkAclId:
        Ref: NetworkAclId
      Resources:
        Ref: Resources
    Type: ALIYUN::VPC::NetworkAclAssociation
Outputs:
  NetworkAclId:
    Description: The ID of the network ACL.
    Value:
      Fn::GetAtt:
      - NetworkAclAssociation
      - NetworkAclId
```

67.22. ALIYUN::VPC::PeeringRouterInterfaceBinding

ALIYUN::VPC::PeeringRouterInterfaceBinding is used to bind two router interfaces to be interconnected.

Syntax

```
{
  "Type": "ALIYUN::VPC::PeeringRouterInterfaceBinding",
  "Properties": {
    "OppositeRouterId": String,
    "OppositeInterfaceId": String,
    "OppositeInterfaceOwnerId": String,
    "RouterInterfaceId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
RouterInterfaceId	String	Yes	No	The ID of the router interface.	None
OppositeInterfaceId	String	Yes	No	The ID of the peer router interface.	None
OppositeRouterId	String	No	No	The ID of the router to which the peer router interface belongs.	None
OppositeInterfaceOwnerId	String	No	No	The owner account ID of the peer router interface.	None

Response parameters

Fn::GetAtt

RouterInterfaceId: the ID of the router interface.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "InitiatorRouterInterfaceBinding": {
      "Type": "ALIYUN::VPC::PeeringRouterInterfaceBinding",
      "Properties": {
        "RouterInterfaceId": "ri-2zedgo0ih64g1me29****",
        "OppositeInterfaceId": "ri-2zex1tkyym98pjaor****",
        "OppositeRouterId": "vrt-2zexb35tzoriu0286****"
      }
    }
  }
}
```

67.23. ALIYUN::VPC::PeeringRouterInterfaceConnection

ALIYUN::VPC::PeeringRouterInterfaceConnection is used to initiate a router interface connection.

Syntax

```
{
  "Type": "ALIYUN::VPC::PeeringRouterInterfaceConnection",
  "Properties": {
    "OppositeInterfaceId": String,
    "RouterInterfaceId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
OppositeInterfaceId	String	Yes	No	The ID of the router interface that accepts the connection.	None
RouterInterfaceId	String	Yes	No	The ID of the router interface that initiates the connection.	None

Response parameters

Fn::GetAtt

- OppositeInterfaceId: the ID of the router interface that accepts the connection.
- RouterInterfaceId: the ID of the router interface that initiates the connection.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "OppositeInterfaceId": {
      "Type": "String",
      "Description": "The Receiver RouterInterface ID to accept peer RouterInterface."
    },
    "RouterInterfaceId": {
      "Type": "String",
      "Description": "The Initiator RouterInterface ID to connect peer RouterInterface."
    }
  },
  "Resources": {
    "RouterInterfaceConnection": {
      "Type": "ALIYUN::VPC::PeeringRouterInterfaceConnection",
      "Properties": {
        "OppositeInterfaceId": {
          "Ref": "OppositeInterfaceId"
        },
        "RouterInterfaceId": {
          "Ref": "RouterInterfaceId"
        }
      }
    }
  },
  "Outputs": {
    "OppositeInterfaceId": {
      "Description": "The receiver RouterInterface ID.",
      "Value": {
        "Fn::GetAtt": [
          "RouterInterfaceConnection",
          "OppositeInterfaceId"
        ]
      }
    },
    "RouterInterfaceId": {
      "Description": "The initiator RouterInterface ID.",
      "Value": {
        "Fn::GetAtt": [
          "RouterInterfaceConnection",
          "RouterInterfaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  OppositeInterfaceId:
    Type: String
    Description: The Receiver RouterInterface ID to accept peer RouterInterface.
  RouterInterfaceId:
    Type: String
    Description: The Initiator RouterInterface ID to connect peer RouterInterface.
Resources:
  RouterInterfaceConnection:
    Type: 'ALIYUN::VPC::PeeringRouterInterfaceConnection'
    Properties:
      OppositeInterfaceId:
        Ref: OppositeInterfaceId
      RouterInterfaceId:
        Ref: RouterInterfaceId
Outputs:
  OppositeInterfaceId:
    Description: The receiver RouterInterface ID.
    Value:
      'Fn::GetAtt':
        - RouterInterfaceConnection
        - OppositeInterfaceId
  RouterInterfaceId:
    Description: The initiator RouterInterface ID.
    Value:
      'Fn::GetAtt':
        - RouterInterfaceConnection
        - RouterInterfaceId
```

67.24. ALIYUN::VPC::RouterInterface

ALIYUN::VPC::RouterInterface is used to create a router interface.

Syntax

```
{
  "Type": "ALIYUN::VPC::RouterInterface",
  "Properties": {
    "OppositeRegionId": String,
    "Description": String,
    "HealthCheckSourceIp": String,
    "RouterType": String,
    "AccessPointId": String,
    "RouterId": String,
    "Role": String,
    "OppositeInterfaceOwnerId": String,
    "OppositeAccessPointId": String,
    "OppositeInterfaceId": String,
    "HealthCheckTargetIp": String,
    "OppositeRouterId": String,
    "Spec": String,
    "OppositeRouterType": String,
    "Name": String,
    "PricingCycle": String,
    "Period": Number,
    "AutoPay": Boolean,
    "InstanceChargeType": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
RouterId	String	Yes	No	The ID of the router to which the router interface belongs.	None

Property	Type	Required	Editable	Description	Constraint
Role	String	Yes	No	The role of the router interface. A router interface can either be a connection initiator or a connection acceptor.	Valid values: • InitiatingSide This parameter must be set to InitiatingSide when the RouterType parameter is set to VBR. • AcceptingSide This parameter must be set to AcceptingSide when the OppositeRouterType parameter is set to VBR.
RouterType	String	No	No	The type of the router to which the router interface belongs.	Valid values: • VRouter: VPC router • VBR: virtual border router
AccessPointId	String	No	No	The ID of the access point of the router interface.	This parameter is required when the RouterType parameter is set to VBR. The access point ID cannot be modified after the router interface is created. This parameter cannot be set when the RouterType parameter is set to VRouter.
Spec	String	No	No	The specifications of the router interface.	The following list includes available specifications and the corresponding bandwidth values: • Mini.2: 2 Mbit/s • Mini.5: 5 Mbit/s • Small.1: 10 Mbit/s • Small.2: 20 Mbit/s • Small.5: 50 Mbit/s • Middle.1: 100 Mbit/s • Middle.2: 200 Mbit/s • Middle.5: 500 Mbit/s • Large.1: 1,000 Mbit/s • Large.2: 2,000 Mbit/s • Large.5: 5,000 Mbit/s • Xlarge.1: 10,000 Mbit/s This parameter is required when the Role parameter is set to InitiatingSide. The value Negative is used by default when the Role parameter is set to AcceptingSide.
OppositeRegionId	String	No	No	The region ID of the peer router interface.	None
OppositeInterfaceOwnerId	String	No	Yes	The ID of the owner of the peer router interface.	The default value is the ID of the current user.
OppositeInterfaceId	String	No	Yes	The ID of the peer router interface.	None
OppositeRouterId	String	No	Yes	The ID of the router to which the peer router interface belongs.	None

Property	Type	Required	Editable	Description	Constraint
OppositeRouterType	String	No	Yes	The type of the router to which the peer router interface belongs.	Valid values: • VRouter: VPC router This parameter must be set to VRouter when the RouterType parameter is set to VBR. • VBR: virtual border router
OppositeAccessPointId	String	No	No	The ID of the access point of the peer router interface.	This parameter is required when the OppositeRouterType parameter is set to VBR. The access point ID cannot be modified after the router interface is created. This parameter cannot be set when the OppositeRouterType parameter is set to VRouter. **Note** When the OppositeRouterType parameter is set to VBR, the VBR specified by the OppositeRouterId parameter must be in the access point specified by the OppositeAccessPointId parameter.
Description	String	No	Yes	The description of the router interface.	The description must be 2 to 256 characters in length. It cannot start with `http://` or `https://`. This parameter is empty by default.
Name	String	No	Yes	The display name of the router interface.	The name must be 2 to 128 characters in length. The name must start with a letter and cannot start with `http://` or `https://`. It can contain letters, digits, periods (.), underscores (_), and hyphens (-).
HealthCheckSourceIp	String	No	No	The source IP address of health check packets used in leased line disaster recovery and ECMP scenarios.	This parameter is valid only for VRouter interfaces that have a peer router interface on a VBR. It must be an unused IP address in the VPC where the local VRouter is located. The HealthCheckSourceIp and HealthCheckTargetIp parameters must either both be specified or both unspecified.

Property	Type	Required	Editable	Description	Constraint
HealthCheckTargetIp	String	No	No	The destination IP address of health check packets used in leased line disaster recovery and ECMP scenarios.	This parameter is valid only for VRouter interfaces that have a peer router interface on a VBR. Typically, you can use the IP address of a customer premises equipment (CPE) on the user side of the leased line, which is the IP address of the peer gateway on the VBR where the peer router interface is located. You can also specify another IP address on the user side of the leased line as the destination IP address. The HealthCheckSourceIp and HealthCheckTargetIp parameters must either both be specified or both unspecified.
PricingCycle	String	No	No	The billing cycle of the subscription.	Valid values: • Month • Year
Period	Number	No	No	The subscription period.	Valid values: • Valid values when the PricingCycle parameter is set to Month: 1 to 9. • Valid values when the PricingCycle parameter is set to Year: 1 to 3.
AutoPay	Boolean	No	No	Specifies whether to enable automatic payment.	Default value: false. Valid values: • true • false
InstanceChargeType	String	No	No	The billing method of the router interface.	Valid values: • Postpaid: pay-as-you-go • Prepaid: subscription

Response parameters

Fn::GetAtt

RouterInterfaceId: the ID of the router interface.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "OppositeInterfaceId": {
      "Type": "String",
      "Description": "The ID of the peer router interface."
    },
    "OppositeInterfaceOwnerId": {
      "Type": "String",
      "Description": "Owner account ID of the connection peer RouterInterface. The default value is current user Id."
    },
    "Description": {
      "Type": "String",
      "Description": "Custom description of the RouterInterface, [2, 256] characters. Don't fill or empty, the default is empty
."
    },
    "OppositeRouterId": {
      "Type": "String",
      "Description": "The router ID of the connection peer RouterInterface."
```

```
    },
    "OppositeRegionId": {
      "Type": "String",
      "Description": "The region where the connection peer RouterInterface locates. The default value is region where stack is
created."
    },
    "PricingCycle": {
      "Type": "String",
      "Description": "Unit of the payment cycle. It could be Month (default) or Year.",
      "AllowedValues": [
        "Month",
        "Year"
      ]
    },
    "InstanceChargeType": {
      "Type": "String",
      "Description": "The billing method of the router interface. Valid values: PrePaid (Subscription), PostPaid (default, Pay-
As-You-Go)",
      "AllowedValues": [
        "PrePaid",
        "PostPaid"
      ],
      "Default": "PostPaid"
    },
    "HealthCheckSourceIp": {
      "Type": "String",
      "Description": "Source IP address of the packet for leased line HealthCheck in leased line disaster tolerance and ECMP sc
enarios. It is valid only for a VRouter RouterInterface with a peer on a VBR. The source IP address must be in the VPC of the l
ocal VRouter and is not used. HealthCheckSourceIp and HealthCheckTargetIp parameters must be both specified or left unspecified
."
    },
    "Period": {
      "Type": "Number",
      "Description": "Prepaid time period. It could be from 1 to 9 when PricingCycle is Month, or 1 to 3 when PricingCycle is Y
ear. Default value is 3.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9
      ]
    },
    "RouterId": {
      "Type": "String",
      "Description": "The router ID to create RouterInterface."
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Indicates whether automatic payment is enabled. Valid values:false: Automatic payment is disabled. You ne
ed to go to Orders to make the payment once an order is generated. true: Automatic payment is enabled. The payment is automatic
ally made.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "Custom name of the RouterInterface, [2, 128] English or Chinese characters, must start with a letter or C
hinese in size, can contain numbers, '_' or '.', '-'"
    },
    "Role": {
      "Type": "String",
      "Description": "RouterInterface role. Now support 'InitiatingSide|AcceptingSide'. If 'RouterType' is specified as 'VBR',
the value must be 'InitiatingSide'.If 'OppositeRouterType' is specified as 'VBR', the value must be 'AcceptingSide'.",
      "AllowedValues": [
        "InitiatingSide",
```

```
        "AcceptingSide"
      ]
    },
    "OppositeRouterType": {
      "Type": "String",
      "Description": "Router type of the connection peer router. Now support 'VRouter|VBR'. If 'RouterType' is specified as 'VB
R', the value must be 'VRouter'.",
      "AllowedValues": [
        "VRouter",
        "VBR"
      ],
      "Default": "VRouter"
    },
    "RouterType": {
      "Type": "String",
      "Description": "Router type. Now support 'VRouter|VBR'",
      "AllowedValues": [
        "VRouter",
        "VBR"
      ],
      "Default": "VRouter"
    },
    "AccessPointId": {
      "Type": "String",
      "Description": "Access point ID. If 'RouterType' is specified as 'VBR', the value is required."
    },
    "OppositeAccessPointId": {
      "Type": "String",
      "Description": "Access point ID of the connection peer RouterInterface. If 'OppositeRouterType' is specified as 'VBR', th
e value is required."
    },
    "Spec": {
      "Type": "String",
      "Description": "RouterInterface specification. If 'Role' is specified as 'InitiatingSide', the value is required. If 'Rol
e' is specified as 'AcceptingSide', the value is set as 'Negative' by default."
    },
    "HealthCheckTargetIp": {
      "Type": "String",
      "Description": "Target IP address of the packet for leased line HealthCheck in leased line disaster tolerance and ECMP sc
enarios. It is valid only for a VRouter RouterInterface with a peer on a VBR. Usually you can use the CPE IP address of the lea
sed line user's client (that is, the PeerGatewayIP on the VBR of the peer RouterInterface), you can also specify another IP add
ress of the leased line user's client as the HealthCheck target IP address. HealthCheckSourceIp and HealthCheckTargetIp paramet
ers must be both specified or left unspecified."
    }
  },
  "Resources": {
    "RouterInterface": {
      "Type": "ALIYUN::VPC::RouterInterface",
      "Properties": {
        "OppositeInterfaceId": {
          "Ref": "OppositeInterfaceId"
        },
        "OppositeInterfaceOwnerId": {
          "Ref": "OppositeInterfaceOwnerId"
        },
        "Description": {
          "Ref": "Description"
        },
        "OppositeRouterId": {
          "Ref": "OppositeRouterId"
        },
        "OppositeRegionId": {
          "Ref": "OppositeRegionId"
        },
        "PricingCycle": {
          "Ref": "PricingCycle"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "HealthCheckSourceIp": {
          "Ref": "HealthCheckSourceIp"
        },
        "Period": {
```

```
          "Ref": "Period"
        },
        "RouterId": {
          "Ref": "RouterId"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "Name": {
          "Ref": "Name"
        },
        "Role": {
          "Ref": "Role"
        },
        "OppositeRouterType": {
          "Ref": "OppositeRouterType"
        },
        "RouterType": {
          "Ref": "RouterType"
        },
        "AccessPointId": {
          "Ref": "AccessPointId"
        },
        "OppositeAccessPointId": {
          "Ref": "OppositeAccessPointId"
        },
        "Spec": {
          "Ref": "Spec"
        },
        "HealthCheckTargetIp": {
          "Ref": "HealthCheckTargetIp"
        }
      }
    }
  },
  "Outputs": {
    "RouterInterfaceId": {
      "Description": "The ID of created RouterInterface.",
      "Value": {
        "Fn::GetAtt": [
          "RouterInterface",
          "RouterInterfaceId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  OppositeInterfaceId:
    Type: String
    Description: The ID of the peer router interface.
  OppositeInterfaceOwnerId:
    Type: String
    Description: >-
      Owner account ID of the connection peer RouterInterface. The default value
      is current user Id.
  Description:
    Type: String
    Description: >-
      Custom description of the RouterInterface, [2, 256] characters. Don't fill
      or empty, the default is empty.
  OppositeRouterId:
    Type: String
    Description: The router ID of the connection peer RouterInterface.
  OppositeRegionId:
    Type: String
    Description: >-
      The region where the connection peer RouterInterface locates. The default
      value is region where stack is created.
  PricingCycle:
```

```
    Type: String
    Description: Unit of the payment cycle. It could be Month (default) or Year.
    AllowedValues:
      - Month
      - Year
  InstanceChargeType:
    Type: String
    Description: >-
      The billing method of the router interface. Valid values: PrePaid
      (Subscription), PostPaid (default, Pay-As-You-Go)
    AllowedValues:
      - PrePaid
      - PostPaid
    Default: PostPaid
  HealthCheckSourceIp:
    Type: String
    Description: >-
      Source IP address of the packet for leased line HealthCheck in leased line
      disaster tolerance and ECMP scenarios. It is valid only for a VRouter
      RouterInterface with a peer on a VBR. The source IP address must be in the
      VPC of the local VRouter and is not used. HealthCheckSourceIp and
      HealthCheckTargetIp parameters must be both specified or left unspecified.
  Period:
    Type: Number
    Description: >-
      Prepaid time period. It could be from 1 to 9 when PricingCycle is Month,
      or 1 to 3 when PricingCycle is Year. Default value is 3.
    AllowedValues:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
  RouterId:
    Type: String
    Description: The router ID to create RouterInterface.
  AutoPay:
    Type: Boolean
    Description: >-
      Indicates whether automatic payment is enabled. Valid values:false:
      Automatic payment is disabled. You need to go to Orders to make the
      payment once an order is generated. true: Automatic payment is enabled.
      The payment is automatically made.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Name:
    Type: String
    Description: >-
      Custom name of the RouterInterface, [2, 128] English or Chinese
      characters, must start with a letter or Chinese in size, can contain
      numbers, '_' or '.', '-'
  Role:
    Type: String
    Description: >-
      RouterInterface role. Now support 'InitiatingSide|AcceptingSide'. If
      'RouterType' is specified as 'VBR', the value must be 'InitiatingSide'.If
      'OppositeRouterType' is specified as 'VBR', the value must be
      'AcceptingSide'.
    AllowedValues:
      - InitiatingSide
      - AcceptingSide
  OppositeRouterType:
    Type: String
    Description: >-
      Router type of the connection peer router. Now support 'VRouter|VBR'. If
      'RouterType' is specified as 'VBR', the value must be 'VRouter'.
    AllowedValues:
```

```
      - VRouter
      - VBR
    Default: VRouter
  RouterType:
    Type: String
    Description: Router type. Now support 'VRouter|VBR'
    AllowedValues:
      - VRouter
      - VBR
    Default: VRouter
  AccessPointId:
    Type: String
    Description: >-
      Access point ID. If 'RouterType' is specified as 'VBR', the value is
      required.
  OppositeAccessPointId:
    Type: String
    Description: >-
      Access point ID of the connection peer RouterInterface. If
      'OppositeRouterType' is specified as 'VBR', the value is required.
  Spec:
    Type: String
    Description: >-
      RouterInterface specification. If 'Role' is specified as 'InitiatingSide',
      the value is required. If 'Role' is specified as 'AcceptingSide', the
      value is set as 'Negative' by default.
  HealthCheckTargetIp:
    Type: String
    Description: >-
      Target IP address of the packet for leased line HealthCheck in leased line
      disaster tolerance and ECMP scenarios. It is valid only for a VRouter
      RouterInterface with a peer on a VBR. Usually you can use the CPE IP
      address of the leased line user's client (that is, the PeerGatewayIP on
      the VBR of the peer RouterInterface), you can also specify another IP
      address of the leased line user's client as the HealthCheck target IP
      address. HealthCheckSourceIp and HealthCheckTargetIp parameters must be
      both specified or left unspecified.
Resources:
  RouterInterface:
    Type: 'ALIYUN::VPC::RouterInterface'
    Properties:
      OppositeInterfaceId:
        Ref: OppositeInterfaceId
      OppositeInterfaceOwnerId:
        Ref: OppositeInterfaceOwnerId
      Description:
        Ref: Description
      OppositeRouterId:
        Ref: OppositeRouterId
      OppositeRegionId:
        Ref: OppositeRegionId
      PricingCycle:
        Ref: PricingCycle
      InstanceChargeType:
        Ref: InstanceChargeType
      HealthCheckSourceIp:
        Ref: HealthCheckSourceIp
      Period:
        Ref: Period
      RouterId:
        Ref: RouterId
      AutoPay:
        Ref: AutoPay
      Name:
        Ref: Name
      Role:
        Ref: Role
      OppositeRouterType:
        Ref: OppositeRouterType
      RouterType:
        Ref: RouterType
      AccessPointId:
        Ref: AccessPointId
      OppositeAccessPointId:
```

```
        Ref: OppositeAccessPointId
      Spec:
        Ref: Spec
      HealthCheckTargetIp:
        Ref: HealthCheckTargetIp
Outputs:
  RouterInterfaceId:
    Description: The ID of created RouterInterface.
    Value:
      'Fn::GetAtt':
        - RouterInterface
        - RouterInterfaceId
```

67.25. ALIYUN::VPC::RouteTable

ALIYUN::VPC::RouteTable is used to create a custom route table.

You cannot create a custom route table within the following regions:

- China (Beijing)
- China (Shenzhen)
- China (Hangzhou)

Syntax

```
{
  "Type": "ALIYUN::VPC::RouteTable",
  "Properties": {
    "RouteTableName": String,
    "VpcId": String,
    "Description": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the VPC to which the custom route table belongs.	None
RouteTableName	String	No	Yes	The name of the route table.	The name must be 2 to 128 characters in length. It must start with a letter and cannot start with `http://` or `https://`. The name can contain letters, digits, periods (.), underscores (_), and hyphens (-).
Description	String	No	Yes	The description of the route table.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.

Property	Type	Required	Editable	Description	Constraint
Tags	List	No	No	The tags of the route table.	A maximum of 20 tags can be specified. Each tag is a key-value pair. The tag value can be left empty. For more information, see Tags properties.

Tags syntax

```
"Tags": [
  {
    "Value": String,
    "Key": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot start with `aliyun` or `acs:` . It cannot contain `http://` or `https://` .
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot start with `aliyun` or `acs:` . It cannot contain `http://` or `https://` .

Response parameters

Fn::GetAtt

- RouteTableId: the ID of the route table.
- VpcId: the ID of the VPC to which the custom route table belongs.
- RouteTableName: the name of the route table.
- RouteTableType: the type of the route table.
- VSwitchIds: the IDs of vSwitches in the VPC.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "RouteTable": {
      "Type": "ALIYUN::VPC::RouteTable",
      "Properties": {
        "RouteTableName": {
          "Ref": "RouteTableName"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "Description": {
          "Ref": "Description"
        }
      }
```

```
    }
  },
  "Parameters": {
    "RouteTableName": {
      "Type": "String",
      "Description": "The name of the route table. The name must be 2 to 128 characters in length. It can contain letters, numb
ers, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with http:// or https://."
    },
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the VPC to which the custom route table belongs."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the route table. The description must be 2 to 256 characters in length and start with
a letter, but cannot be start with http:// or https://."
    }
  },
  "Outputs": {
    "RouteTableId": {
      "Description": "The ID of the route table.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTable",
          "RouteTableId"
        ]
      }
    },
    "VpcId": {
      "Description": "The ID of the VRouter to which the route table belongs.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTable",
          "VpcId"
        ]
      }
    },
    "RouteTableType": {
      "Description": "The type of the route table.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTable",
          "RouteTableType"
        ]
      }
    },
    "VSwitchIds": {
      "Description": "A list of vSwitches under the VPC.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTable",
          "VSwitchIds"
        ]
      }
    },
    "RouteTableName": {
      "Description": "The name of the route table.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTable",
          "RouteTableName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  RouteTable:
    Type: ALIYUN::VPC::RouteTable
    Properties:
      RouteTableName:
        Ref: RouteTableName
      VpcId:
        Ref: VpcId
      Description:
        Ref: Description
Parameters:
  RouteTableName:
    Type: String
    Description: The name of the route table. The name must be 2 to 128 characters
      in length. It can contain letters, numbers, periods (.), underscores (_), and
      hyphens (-). It must start with a letter and cannot start with http:// or https://.
  VpcId:
    Type: String
    Description: The ID of the VPC to which the custom route table belongs.
  Description:
    Type: String
    Description: The description of the route table. The description must be 2 to 256
      characters in length and start with a letter, but cannot be start with http://
      or https://.
Outputs:
  RouteTableId:
    Description: The ID of the route table.
    Value:
      Fn::GetAtt:
      - RouteTable
      - RouteTableId
  VpcId:
    Description: The ID of the VRouter to which the route table belongs.
    Value:
      Fn::GetAtt:
      - RouteTable
      - VpcId
  RouteTableType:
    Description: The type of the route table.
    Value:
      Fn::GetAtt:
      - RouteTable
      - RouteTableType
  VSwitchIds:
    Description: A list of vSwitches under the VPC.
    Value:
      Fn::GetAtt:
      - RouteTable
      - VSwitchIds
  RouteTableName:
    Description: The name of the route table.
    Value:
      Fn::GetAtt:
      - RouteTable
      - RouteTableName
```

67.26. ALIYUN::VPC::RouteTableAssociation

ALIYUN::VPC::RouteTableAssociation is used to associate a custom routing table with a vSwitch in the same VPC.

Syntax

```
{
  "Type": "ALIYUN::VPC::RouteTableAssociation",
  "Properties": {
    "RouteTableId": String,
    "VSwitchId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
RouteTableId	String	Yes	No	The ID of the routing table.	None
VSwitchId	String	Yes	No	The ID of the vSwitch with which the routing table will be associated.	None

Response parameters

Fn::GetAtt

- RouteTableId: the ID of the routing table.
- VSwitchId: the ID of the vSwitch.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "RouteTableAssociation": {
      "Type": "ALIYUN::VPC::RouteTableAssociation",
      "Properties": {
        "RouteTableId": {
          "Ref": "RouteTableId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        }
      }
    }
  },
  "Parameters": {
    "RouteTableId": {
      "Type": "String",
      "Description": "The ID of the route table."
    },
    "VSwitchId": {
      "Type": "String",
      "Description": "The ID of the vSwitch."
    }
  },
  "Outputs": {
    "RouteTableId": {
      "Description": "The ID of the route table.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTableAssociation",
          "RouteTableId"
        ]
      }
    },
    "VSwitchId": {
      "Description": "The vSwitch ID which the route table associated with.",
      "Value": {
        "Fn::GetAtt": [
          "RouteTableAssociation",
          "VSwitchId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  RouteTableAssociation:
    Type: ALIYUN::VPC::RouteTableAssociation
    Properties:
      RouteTableId:
        Ref: RouteTableId
      VSwitchId:
        Ref: VSwitchId
Parameters:
  RouteTableId:
    Type: String
    Description: The ID of the route table.
  VSwitchId:
    Type: String
    Description: The ID of the vSwitch.
Outputs:
  RouteTableId:
    Description: The ID of the route table.
    Value:
      Fn::GetAtt:
      - RouteTableAssociation
      - RouteTableId
  VSwitchId:
    Description: The vSwitch ID which the route table associated with.
    Value:
      Fn::GetAtt:
      - RouteTableAssociation
      - VSwitchId
```

67.27. ALIYUN::VPC::SnatEntry

ALIYUN::VPC::SnatEntry is used to add a Source Network Address Translation (SNAT) entry to an SNAT table.

Syntax

```
{
  "Type": "ALIYUN::VPC::SnatEntry",
  "Properties": {
    "SnatTableId": String,
    "SnatEntryName": String,
    "SourceVSwitchIds": List,
    "SourceCIDR": String,
    "SnatIp": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
SnatTableId	String	Yes	No	The ID of the SNAT table.	None
SnatEntryName	String	No	Yes	The name of the SNAT entry to be added to the SNAT table.	The name must be 2 to 128 characters in length. It must start with a letter but cannot start with `http://` or `https://`.
SourceVSwitchIds	List	No	No	The IDs of vSwitches used to access the Internet.	None
SourceCIDR	String	No	No	The CIDR block of the vSwitch or ECS instance.	You cannot specify both the SourceCIDR and SourceVSwitchIds parameters.

Property	Type	Required	Editable	Description	Constraint
SnatIp	String	Yes	Yes	The public IP address.	Separate multiple IP addresses with commas (,).

Response parameters

Fn::GetAtt

SnatEntryIds: the IDs of SNAT entries in the table.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "SnatEntryName": {
      "Type": "String",
      "Description": "he name of the SNAT rule is 2-128 characters long and must start with a letter or Chinese, but cannot beg
in with HTTP:// or https://."
    },
    "SourceVSwitchIds": {
      "Type": "CommaDelimitedList",
      "Description": "The ID of the vSwitch to access the Internet."
    },
    "SourceCIDR": {
      "Type": "String",
      "Description": "Specifies the network segment of the switch. For example, 10.0.XX.XX/24. This parameter and the SourceVSw
itchId parameter are mutually exclusive and cannot appear at the same time."
    },
    "SnatIp": {
      "Type": "String",
      "Description": "The public IP address. Separate multiple EIPs with commas."
    },
    "SnatTableId": {
      "Type": "String",
      "Description": "The ID of the SNAT table."
    }
  },
  "Resources": {
    "SnatEntry": {
      "Type": "ALIYUN::VPC::SnatEntry",
      "Properties": {
        "SnatEntryName": {
          "Ref": "SnatEntryName"
        },
        "SourceVSwitchIds": {
          "Ref": "SourceVSwitchIds"
        },
        "SourceCIDR": {
          "Ref": "SourceCIDR"
        },
        "SnatIp": {
          "Ref": "SnatIp"
        },
        "SnatTableId": {
          "Ref": "SnatTableId"
        }
      }
    }
  },
  "Outputs": {
    "SnatEntryIds": {
      "Description": "The IDS of the SNAT entry.",
      "Value": {
        "Fn::GetAtt": [
          "SnatEntry",
          "SnatEntryIds"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  SnatEntryName:
    Type: String
    Description: >-
      he name of the SNAT rule is 2-128 characters long and must start with a
      letter or Chinese, but cannot begin with HTTP:// or https://.
  SourceVSwitchIds:
    Type: CommaDelimitedList
    Description: The ID of the vSwitch to access the Internet.
  SourceCIDR:
    Type: String
    Description: >-
      Specifies the network segment of the switch. For example, 10.0.XX.XX/24.
      This parameter and the SourceVSwtichId parameter are mutually exclusive
      and cannot appear at the same time.
  SnatIp:
    Type: String
    Description: The public IP address. Separate multiple EIPs with commas.
  SnatTableId:
    Type: String
    Description: The ID of the SNAT table.
Resources:
  SnatEntry:
    Type: 'ALIYUN::VPC::SnatEntry'
    Properties:
      SnatEntryName:
        Ref: SnatEntryName
      SourceVSwitchIds:
        Ref: SourceVSwitchIds
      SourceCIDR:
        Ref: SourceCIDR
      SnatIp:
        Ref: SnatIp
      SnatTableId:
        Ref: SnatTableId
Outputs:
  SnatEntryIds:
    Description: The IDS of the SNAT entry.
    Value:
      'Fn::GetAtt':
        - SnatEntry
        - SnatEntryIds
```

67.28. ALIYUN::VPC::SslVpnClientCert

ALIYUN::VPC::SslVpnClientCert is used to call the CreateSslVpnClientCert operation to create an SSL-VPN client certificate.

Syntax

```
{
  "Type": "ALIYUN::VPC::SslVpnClientCert",
  "Properties": {
    "Name": String,
    "SslVpnServerId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity

Name	Type	Required	Editable	Description	Validity
Name	String	No	Yes	The name of the client certificate. The name must be 2 to 128 characters in length and can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter and cannot start with http:// or https://.	None.
SslVpnServerId	String	Yes	No	The ID of the SSL-VPN server.	None.

Response parameters

Fn::GetAtt

- SslVpnClientCertId: the ID of the client certificate.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SslVpnClientCert": {
      "Type": "ALIYUN::VPC::SslVpnClientCert",
      "Properties": {
        "Name": {
          "Ref": "Name"
        },
        "SslVpnServerId": {
          "Ref": "SslVpnServerId"
        }
      }
    }
  },
  "Parameters": {
    "Name": {
      "MinLength": 2,
      "Type": "String",
      "Description": "The name of the client certificate.\nThe length is 2-128 characters and must start with a letter or Chine
se. It can contain numbers, periods (.), underscores (_), and dashes (-). But it can't start with http:// or https://.",
      "MaxLength": 128
    },
    "SslVpnServerId": {
      "Type": "String",
      "Description": "ID of the SSL-VPN server."
    }
  },
  "Outputs": {
    "SslVpnClientCertId": {
      "Description": "The ID of the client certificate.",
      "Value": {
        "Fn::GetAtt": [
          "SslVpnClientCert",
          "SslVpnClientCertId"
        ]
      }
    }
  }
}
```

67.29. ALIYUN::VPC::SslVpnServer

ALIYUN::VPC::SslVpnServer is used to create an SSL-VPN server.

Syntax

```
{
  "Type": "ALIYUN::VPC::SslVpnServer",
  "Properties": {
    "Name": String,
    "Proto": String,
    "ClientIpPool": String,
    "Compress": Boolean,
    "LocalSubnet": String,
    "Cipher": String,
    "VpnGatewayId": String,
    "Port": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Name	String	No	Yes	The name of the SSL-VPN server.	The name must be 2 to 128 characters in length. It can contain letters, digits, periods (.), underscores (_), and hyphens (-). It must start with a letter but cannot start with http:// or https://.
Proto	String	No	Yes	The protocol used by the SSL-VPN server.	Valid values: UDP and TCP. Default value: UDP.
ClientIpPool	String	Yes	Yes	The CIDR block from which IP addresses are allocated to the virtual network interface card of the client. It is not the CIDR block of the client.	When the client accesses the server through an SSL-VPN connection, the VPN gateway selects an IP address from the specified CIDR block and assigns it to the client. This CIDR block cannot conflict with the CIDR block specified by LocalSubnet.
Compress	Boolean	No	Yes	Specifies whether to enable compression.	None
LocalSubnet	String	Yes	Yes	The CIDR block to be accessed by the client through an SSL-VPN connection.	This value can be the CIDR blocks of a VPC, a vSwitch, an on-premises data center connected to a VPC through a leased line, or a cloud service such as ApsaraDB for RDS or Object Storage Service (OSS).
Cipher	String	No	Yes	The encryption algorithm used by the SSL-VPN server.	Valid values: AES-128-CBC, AES-192-CBC, AES-256-CBC, and none. Default value: AES-128-CBC.
VpnGatewayId	String	Yes	No	The ID of the VPN gateway.	None

Property	Type	Required	Editable	Description	Constraint
Port	Integer	No	Yes	The port used by the SSL-VPN server.	Default value: 1194. The following ports cannot be used: 22, 2222, 22222, 9000, 9001, 9002, 7505, 80, 443, 53, 68, 123, 4510, 4560, 500, and 4500.

Response parameters

Fn::GetAtt

SslVpnServerId: the ID of the SSL-VPN server.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SslVpnServer": {
      "Type": "ALIYUN::VPC::SslVpnServer",
      "Properties": {
        "Name": {
          "Ref": "Name"
        },
        "Proto": {
          "Ref": "Proto"
        },
        "ClientIpPool": {
          "Ref": "ClientIpPool"
        },
        "Compress": {
          "Ref": "Compress"
        },
        "Port": {
          "Ref": "Port"
        },
        "Cipher": {
          "Ref": "Cipher"
        },
        "VpnGatewayId": {
          "Ref": "VpnGatewayId"
        },
        "LocalSubnet": {
          "Ref": "LocalSubnet"
        }
      }
    }
  },
  "Parameters": {
    "Name": {
      "MinLength": 2,
      "Type": "String",
      "Description": "The name of the SSL-VPN server. The length is 2-128 characters and must start with a letter or Chinese. I
t can contain numbers, periods (.), underscores (_), and dashes (-). But it can't start with http:// or https://.",
      "MaxLength": 128
    },
    "Proto": {
      "Default": "UDP",
      "Type": "String",
      "Description": "The protocol used by the SSL-VPN server. Allowed values: UDP (default) | TCP.",
      "AllowedValues": [
        "UDP",
        "TCP"
      ]
    },
    "ClientIpPool": {
      "Type": "String",
      "Description": "It is the address segment that assigns the access address to the client virtual NIC. It does not refer to
the existing intranet segment of the client. When the client accesses the local end through an SSL-VPN connection, the VPN gate
way allocates an IP address to the client from the specified client network segment. The network segment cannot conflict with t
```

```
he LocalSubnet address segment."
    },
    "Compress": {
      "Default": false,
      "Type": "Boolean",
      "Description": "Whether it is compressed.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Port": {
      "Default": 1194,
      "Type": "Number",
      "Description": "The port used by the SSL-VPN server. The default value is 1194. Cannot use the following ports: 22, 2222,
22222, 9000, 9001, 9002, 7505, 80, 443, 53, 68, 123, 4510, 4560, 500, 4500"
    },
    "Cipher": {
      "Default": "AES-128-CBC",
      "Type": "String",
      "Description": "The encryption algorithm used by SSL-VPN. Value: AES-128-CBC (default) | AES-192-CBC | AES-256-CBC | none
",
      "AllowedValues": [
        "AES-128-CBC",
        "AES-192-CBC",
        "AES-256-CBC",
        "none"
      ]
    },
    "VpnGatewayId": {
      "Type": "String",
      "Description": "ID of the VPN gateway."
    },
    "LocalSubnet": {
      "Type": "String",
      "Description": "Is the address segment that the client wants to access through an SSL-VPN connection. The local network s
egment can be the network segment of the VPC, the network segment of the switch, the network segment of the IDC interconnected
by the leased line and the VPC, and the network segment of the cloud service such as RDS/OSS."
    }
  },
  "Outputs": {
    "SslVpnServerId": {
      "Description": "ID of the SSL-VPN server.",
      "Value": {
        "Fn::GetAtt": [
          "SslVpnServer",
          "SslVpnServerId"
        ]
      }
    }
  }
}
```

67.30. ALIYUN::VPC::VirtualBorderRouter

ALIYUN::VPC::VirtualBorderRouter is used to create a virtual border router (VBR).

Syntax

```
{
  "Type": "ALIYUN::VPC::VirtualBorderRouter",
  "Properties": {
    "PeerGatewayIp": String,
    "LocalGatewayIp": String,
    "Description": String,
    "CircuitCode": String,
    "PhysicalConnectionId": String,
    "PeeringSubnetMask": String,
    "VlanId": Integer,
    "Name": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PeerGatewayIp	String	Yes	Yes	The IP address of the VBR on the user side.	Only the owner of the VBR can set or modify this property. This property is required when you create a VBR for the owner of the Express Connect circuit. You can ignore this property when you create a VBR for another Alibaba Cloud account.
LocalGatewayIp	String	Yes	Yes	The IP address of the VBR on the Alibaba Cloud side.	None
Description	String	No	Yes	The description of the VBR.	The description must be 2 to 256 characters in length. The description must start with a letter but cannot start with `http://` or `https://`.
CircuitCode	String	No	Yes	The code provided by the Internet service provider (ISP) of the Express Connect circuit.	Only the owner of the Express Connect circuit can set this property.
PhysicalConnectionId	String	Yes	No	The ID of the Express Connect circuit.	None
PeeringSubnetMask	String	Yes	Yes	The subnet mask for the IP addresses of the VBR on the Alibaba Cloud side and on the user side.	The two IP addresses must be located in the same subnet.
VlanId	Integer	Yes	No	The virtual LAN (VLAN) ID of the VBR.	Valid values: 1 to 2999. **Note** Only the owner of the Express Connect circuit can set this property. The VLAN IDs of two VBRs of the same the Express Connect circuit must be different.
Name	String	No	Yes	The name of the VBR.	The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), and hyphens (-). The name must start with a letter but cannot start with `http://` or `https://`.

Response parameters

Fn::GetAtt

- VbrId: the ID of the VBR.
- Name: the name of the VBR.
- RouteTableId: the ID of the VBR route table.
- VlanInterfaceId: the ID of the VBR interface.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeerGatewayIp": {
      "Type": "String",
      "Description": "The IP address of the peer router interface of the VBR.\nOnly the owner of the VBR can set or modify the value.\nThis parameter is required when you create a VBR for the owner of the physical connection.\nYou can ignore this parameter when you create a VBR for another Alibaba Cloud account."
    },
    "LocalGatewayIp": {
      "Type": "String",
      "Description": "The IP address of the VBR on the Alibaba Cloud side."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the VBR.\nThe description must be 2 to 256 characters in length. It must start with a letter\nbut cannot start with http:// or https://."
    },
    "CircuitCode": {
      "Type": "String",
      "Description": "The circuit code provided by the Internet service provider (ISP) for the physical\nconnection.\nNote Only the owner of the physical connection can set this parameter."
    },
    "PhysicalConnectionId": {
      "Type": "String",
      "Description": "The ID of the physical connection."
    },
    "PeeringSubnetMask": {
      "Type": "String",
      "Description": "The subnet mask for the IP addresses of the VBR on the Alibaba Cloud side and on the\nuser side.\nThe two IP addresses must fall within the same subnet."
    },
    "VlanId": {
      "Type": "Number",
      "Description": "The VLAN ID of the VBR. Valid values: 1 to 2999.\nNote Only the owner of the physical connection can set this parameter. The VLAN IDs of\ntwo VBRs of the same physical connection must be different.",
      "MinValue": 1,
      "MaxValue": 2999
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the VBR.\nThe name must be 2 to 128 characters in length, and can contain, digits, periods (.),\nunderscores (_), and hyphens (-). The name cannot start with http:// or https://."
    }
  },
  "Resources": {
    "VirtualBorderRouter": {
      "Type": "ALIYUN::VPC::VirtualBorderRouter",
      "Properties": {
        "PeerGatewayIp": {
          "Ref": "PeerGatewayIp"
        },
        "LocalGatewayIp": {
          "Ref": "LocalGatewayIp"
        },
        "Description": {
          "Ref": "Description"
        },
        "CircuitCode": {
          "Ref": "CircuitCode"
        },
        "PhysicalConnectionId": {
          "Ref": "PhysicalConnectionId"
```

```
        },
        "PeeringSubnetMask": {
          "Ref": "PeeringSubnetMask"
        },
        "VlanId": {
          "Ref": "VlanId"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "RouteTableId": {
      "Description": "The ID of the route table of the VBR.",
      "Value": {
        "Fn::GetAtt": [
          "VirtualBorderRouter",
          "RouteTableId"
        ]
      }
    },
    "VlanInterfaceId": {
      "Description": "The ID of the VBR interface.",
      "Value": {
        "Fn::GetAtt": [
          "VirtualBorderRouter",
          "VlanInterfaceId"
        ]
      }
    },
    "VbrId": {
      "Description": "The ID of the VBR.",
      "Value": {
        "Fn::GetAtt": [
          "VirtualBorderRouter",
          "VbrId"
        ]
      }
    },
    "Name": {
      "Description": "The name of the VBR.",
      "Value": {
        "Fn::GetAtt": [
          "VirtualBorderRouter",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  CircuitCode:
    Description: 'The circuit code provided by the Internet service provider (ISP)
      for the physical
      connection.
      Note Only the owner of the physical connection can set this parameter.'
    Type: String
  Description:
    Description: 'The description of the VBR.
      The description must be 2 to 256 characters in length. It must start with a
      letter
      but cannot start with http:// or https://.'
    Type: String
  LocalGatewayIp:
    Description: The IP address of the VBR on the Alibaba Cloud side.
    Type: String
  Name:
    Description: 'The name of the VBR
```

```
    Description: 'The name of the VBR.
      The name must be 2 to 128 characters in length, and can contain, digits, periods
      (.),
      underscores (_), and hyphens (-). The name cannot start with http:// or https://.'
    Type: String
  PeerGatewayIp:
    Description: 'The IP address of the peer router interface of the VBR.
      Only the owner of the VBR can set or modify the value.
      This parameter is required when you create a VBR for the owner of the physical
      connection.
      You can ignore this parameter when you create a VBR for another Alibaba Cloud
      account.'
    Type: String
  PeeringSubnetMask:
    Description: 'The subnet mask for the IP addresses of the VBR on the Alibaba Cloud
      side and on the
      user side.
      The two IP addresses must fall within the same subnet.'
    Type: String
  PhysicalConnectionId:
    Description: The ID of the physical connection.
    Type: String
  VlanId:
    Description: 'The VLAN ID of the VBR. Valid values: 1 to 2999.
      Note Only the owner of the physical connection can set this parameter. The VLAN
      IDs of
      two VBRs of the same physical connection must be different.'
    MaxValue: 2999
    MinValue: 1
    Type: Number
Resources:
  VirtualBorderRouter:
    Properties:
      CircuitCode:
        Ref: CircuitCode
      Description:
        Ref: Description
      LocalGatewayIp:
        Ref: LocalGatewayIp
      Name:
        Ref: Name
      PeerGatewayIp:
        Ref: PeerGatewayIp
      PeeringSubnetMask:
        Ref: PeeringSubnetMask
      PhysicalConnectionId:
        Ref: PhysicalConnectionId
      VlanId:
        Ref: VlanId
    Type: ALIYUN::VPC::VirtualBorderRouter
Outputs:
  Name:
    Description: The name of the VBR.
    Value:
      Fn::GetAtt:
      - VirtualBorderRouter
      - Name
  RouteTableId:
    Description: The ID of the route table of the VBR.
    Value:
      Fn::GetAtt:
      - VirtualBorderRouter
      - RouteTableId
  VbrId:
    Description: The ID of the VBR.
    Value:
      Fn::GetAtt:
      - VirtualBorderRouter
      - VbrId
  VlanInterfaceId:
    Description: The ID of the VBR interface.
    Value:
      Fn::GetAtt:
      - VirtualBorderRouter
      - VlanInterfaceId
```

67.31. ALIYUN::VPC::VpnConnection

ALIYUN::VPC::VpnConnection is used to create an IPsec connection.

Syntax

```
{
  "Type": "ALIYUN::VPC::VpnConnection",
  "Properties": {
    "IpsecConfig": Map,
    "Name": String,
    "IkeConfig": Map,
    "HealthCheckConfig": Map,
    "VpnGatewayId": String,
    "CustomerGatewayId": String,
    "RemoteSubnet": String,
    "LocalSubnet": String,
    "EffectImmediately": Boolean
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Name	String	No	Yes	The name of the IPsec connection.	The name must be 2 to 128 characters in length. The name must start with a letter but cannot start with `http://` or `https://`. The name can contain letters, digits, periods (.), underscores (_), and hyphens (-).
IkeConfig	Map	No	Yes	The configurations for phase one negotiation.	For more information, see IkeConfig properties.
IpsecConfig	Map	No	Yes	The configurations for phase two negotiation.	For more information, see IpsecConfig properties.
HealthCheckConfig	Map	No	No	The configurations of the health check.	For more information, see HealthCheckConfig properties.
VpnGatewayId	String	Yes	No	The ID of the VPN gateway.	None
CustomerGatewayId	String	Yes	No	The ID of the customer gateway.	None
RemoteSubnet	String	Yes	Yes	The CIDR block of the on-premises data center. This parameter is used for phase two negotiation.	Separate multiple CIDR blocks with commas (,). Example: 192.168.3.0/24,192.168.4.0/24.

Property	Type	Required	Editable	Description	Constraint
LocalSubnet	String	Yes	Yes	The CIDR block of the VPC to be connected with the on-premises data center. This parameter is used for phase two negotiation.	Separate multiple CIDR blocks with commas (,). Example: 192.168.1.0/24,192.168.2.0/24.
EffectImmediately	Boolean	No	Yes	Specifies whether to delete the currently negotiated IPsec tunnel and re-initiate the negotiation.	Default value: false. Valid values: • true: initiates the negotiation immediately after the configuration is complete. • false: initiates the negotiation when inbound traffic is detected.

IkeConfig syntax

```
"IkeConfig": {
  "RemoteId": String,
  "Psk": String,
  "IkeVersion": String,
  "IkeMode": String,
  "IkeAuthAlg": String,
  "IkeEncAlg": String,
  "IkePfs": String,
  "IkeLifetime": Integer,
  "LocalIdIPsec": String
}
```

IkeConfig properties

Property	Type	Required	Editable	Description	Constraint
RemoteId	String	No	Yes	The ID of the customer gateway.	The ID can be up to 100 characters in length. The default value is the public IP address of the customer gateway.
Psk	String	No	Yes	The pre-shared key used for authentication between the VPN gateway and the customer gateway.	The key can be up to 100 characters in length. By default, a random value is generated. You can also specify a pre-shared key.
IkeVersion	String	No	Yes	The version of the IKE protocol.	Default value: ikev1. Valid values: • ikev1 • ikev2
IkeMode	String	No	Yes	The negotiation mode of IKE version 1.	Default value: main. Valid values: • main • aggressive
IkeAuthAlg	String	No	Yes	The authentication algorithm used by phase one negotiation.	Default value: md5. Valid values: • md5 • sha1

Property	Type	Required	Editable	Description	Constraint
IkeEncAlg	String	No	Yes	The encryption algorithm used by phase one negotiation.	Default value: aes. Valid values: • aes • aes192 • aes256 • des • 3des
IkePfs	String	No	Yes	The Diffie-Hellman key exchange algorithm used by phase one negotiation.	Default value: group2. Valid values: • group1 • group2 • group5 • group14 • group24
IkeLifetime	Integer	No	Yes	The SA lifecycle that results from phase one negotiation.	Valid values: 0 to 86400. Default value: 86400.
LocalIdIPsec	String	No	Yes	The ID of the VPN gateway.	The ID can be up to 100 characters in length. The default value is the public IP address of the VPN gateway.

IpsecConfig syntax

```
"IpsecConfig": {
  "IpsecAuthAlg": String,
  "IpsecEncAlg": String,
  "IpsecLifetime": Integer,
  "IpsecPfs": String
}
```

IpsecConfig properties

Property	Type	Required	Editable	Description	Constraint
IpsecAuthAlg	String	No	Yes	The authentication algorithm used by phase two negotiation.	Default value: md5. Valid values: • md5 • sha1
IpsecEncAlg	String	No	Yes	The encryption algorithm used by phase two negotiation.	Default value: aes. Valid values: • aes • aes192 • aes256 • des • 3des
IpsecLifetime	Integer	No	Yes	The SA lifecycle that results from phase two negotiation.	Valid values: 0 to 86400. Unit: seconds. Default value: 86400.

Property	Type	Required	Editable	Description	Constraint
IpsecPfs	String	No	Yes	The Diffie-Hellman key exchange algorithm used by phase two negotiation.	Default value: group2. Valid values: • group1 • group2 • group5 • group14 • group24

HealthCheckConfig syntax

```
"HealthCheckConfig": {
  "Enable": Boolean,
  "Dip": Boolean,
  "Retry": Integer,
  "Sip": String,
  "Interval": Integer
}
```

HealthCheckConfig properties

Property	Type	Required	Editable	Description	Constraint
Enable	Boolean	No	Yes	Specifies whether to enable the health check.	Valid values: • true • false If this parameter is set to true, other parameters must be specified.
Interval	Integer	No	Yes	The time interval between two consecutive health check retries.	Unit: seconds.
Retry	Integer	No	Yes	The number of times that health check packets are resent.	None
Dip	Boolean	No	Yes	The IP address of the on-premises data center that can be accessed through the IPsec connection.	None
Sip	String	No	Yes	The IP address that the on-premises data center can access through the IPsec connection.	None

Response parameters

Fn::GetAtt

- VpnConnectionId: the ID of the IPsec connection.
- Status: the status of the IPsec connection.
- PeerVpnConnectionConfig: the configurations of the peer connection between VPCs.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "LocalSubnet": {
      "Type": "String",
      "Description": "A network segment on the VPC side that needs to be interconnected with the local IDC for the second phase negotiation.\nMultiple network segments are separated by commas, for example: 192.168.1.0/24, 192.168.2.0/24."
```

```
negotiation.\nMultiple network segments are separated by commas, for example: 192.168.1.0/24, 192.168.2.0/24."
    },
    "EffectImmediately": {
      "Type": "Boolean",
      "Description": "Whether to delete the currently negotiated IPsec tunnel and re-initiate the negotiation. Value:\nTrue: Ne
gotiate immediately after the configuration is complete.\nFalse (default): Negotiate when traffic enters.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "RemoteSubnet": {
      "Type": "String",
      "Description": "The network segment of the local IDC is used for the second phase negotiation.\nMultiple network segments
are separated by commas, for example: 192.168.3.0/24, 192.168.4.0/24."
    },
    "CustomerGatewayId": {
      "Type": "String",
      "Description": "The ID of the user gateway."
    },
    "VpnGatewayId": {
      "Type": "String",
      "Description": "ID of the VPN gateway."
    },
    "IpsecConfig": {
      "Type": "Json",
      "Description": "Configuration information for the second phase negotiation."
    },
    "HealthCheckConfig": {
      "Type": "Json",
      "Description": "Whether to enable the health check configuration."
    },
    "IkeConfig": {
      "Type": "Json",
      "Description": "Configuration information for the first phase of negotiation."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the IPsec connection.\nThe length is 2-128 characters and must start with a letter or Chinese
. It can contain numbers, periods (.), underscores (_) and dashes (-), but cannot start with http:// or https:// .",
      "MinLength": 2,
      "MaxLength": 128
    }
  },
  "Resources": {
    "VpnConnection": {
      "Type": "ALIYUN::VPC::VpnConnection",
      "Properties": {
        "LocalSubnet": {
          "Ref": "LocalSubnet"
        },
        "EffectImmediately": {
          "Ref": "EffectImmediately"
        },
        "RemoteSubnet": {
          "Ref": "RemoteSubnet"
        },
        "CustomerGatewayId": {
          "Ref": "CustomerGatewayId"
        },
        "VpnGatewayId": {
          "Ref": "VpnGatewayId"
        },
        "IpsecConfig": {
          "Ref": "IpsecConfig"
        },
        "HealthCheckConfig": {
          "Ref": "HealthCheckConfig"
        },
        "IkeConfig": {
          "Ref": "IkeConfig"
        }
```

```
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "Status": {
      "Description": "Status of the IPsec connection.",
      "Value": {
        "Fn::GetAtt": [
          "VpnConnection",
          "Status"
        ]
      }
    },
    "PeerVpnConnectionConfig": {
      "Description": "Peer vpc connection config.",
      "Value": {
        "Fn::GetAtt": [
          "VpnConnection",
          "PeerVpnConnectionConfig"
        ]
      }
    },
    "VpnConnectionId": {
      "Description": "ID of the IPsec connection.",
      "Value": {
        "Fn::GetAtt": [
          "VpnConnection",
          "VpnConnectionId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  LocalSubnet:
    Type: String
    Description: >-
      A network segment on the VPC side that needs to be interconnected with the
      local IDC for the second phase negotiation.
      Multiple network segments are separated by commas, for example:
      192.168.1.0/24, 192.168.2.0/24.
  EffectImmediately:
    Type: Boolean
    Description: >-
      Whether to delete the currently negotiated IPsec tunnel and re-initiate
      the negotiation. Value:
      True: Negotiate immediately after the configuration is complete.
      False (default): Negotiate when traffic enters.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
    Default: false
  RemoteSubnet:
    Type: String
    Description: >-
      The network segment of the local IDC is used for the second phase
      negotiation.
      Multiple network segments are separated by commas, for example:
      192.168.3.0/24, 192.168.4.0/24.
  CustomerGatewayId:
    Type: String
    Description: The ID of the user gateway.
  VpnGatewayId:
    Type: String
```

```
    Description: ID of the VPN gateway.
  IpsecConfig:
    Type: Json
    Description: Configuration information for the second phase negotiation.
  HealthCheckConfig:
    Type: Json
    Description: Whether to enable the health check configuration.
  IkeConfig:
    Type: Json
    Description: Configuration information for the first phase of negotiation.
  Name:
    Type: String
    Description: >-
      The name of the IPsec connection.
      The length is 2-128 characters and must start with a letter or Chinese. It
      can contain numbers, periods (.), underscores (_) and dashes (-), but
      cannot start with http:// or https:// .
    MinLength: 2
    MaxLength: 128
Resources:
  VpnConnection:
    Type: 'ALIYUN::VPC::VpnConnection'
    Properties:
      LocalSubnet:
        Ref: LocalSubnet
      EffectImmediately:
        Ref: EffectImmediately
      RemoteSubnet:
        Ref: RemoteSubnet
      CustomerGatewayId:
        Ref: CustomerGatewayId
      VpnGatewayId:
        Ref: VpnGatewayId
      IpsecConfig:
        Ref: IpsecConfig
      HealthCheckConfig:
        Ref: HealthCheckConfig
      IkeConfig:
        Ref: IkeConfig
      Name:
        Ref: Name
Outputs:
  Status:
    Description: Status of the IPsec connection.
    Value:
      'Fn::GetAtt':
        - VpnConnection
        - Status
  PeerVpnConnectionConfig:
    Description: Peer vpc connection config.
    Value:
      'Fn::GetAtt':
        - VpnConnection
        - PeerVpnConnectionConfig
  VpnConnectionId:
    Description: ID of the IPsec connection.
    Value:
      'Fn::GetAtt':
        - VpnConnection
        - VpnConnectionId
```

67.32. ALIYUN::VPC::VpnGateway

ALIYUN::VPC::VpnGateway is used to create a VPN gateway.

Syntax

```
{
  "Type": "ALIYUN::VPC::VpnGateway",
  "Properties": {
    "VpcId": String,
    "VSwitchId": String,
    "Description": String,
    "EnableIpsec": Boolean,
    "AutoPay": Boolean,
    "Period": Integer,
    "EnableSsl": Boolean,
    "Bandwidth": Integer,
    "InstanceChargeType": String,
    "SslConnections": Integer,
    "Name": String,
    "Tags": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
VpcId	String	Yes	No	The ID of the VPC to which the VPN gateway belongs.	None
VSwitchId	String	No	No	The ID of the vSwitch to which the VPN gateway belongs.	None
Description	String	No	Yes	The description of the VPN gateway.	The description must be 2 to 256 characters in length. It must start with a letter and cannot start with `http://` or `https://`.
EnableIpsec	Boolean	No	No	Specifies whether to enable the IPsec-VPN feature.	Default value: true. Valid values: • true • false The IPsec-VPN feature provides site-to-site connections. You can create an IPsec tunnel to connect a data center to a VPC, or connect two VPCs.
AutoPay	Boolean	No	No	Specifies whether to enable automatic payment for the VPN gateway.	Default value: false. Valid values: • true • false
Period	Integer	No	No	The subscription period.	Valid values: • 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • 12 • 24 • 36 Unit: months. This parameter is required when the InstanceChargeType parameter is set to PREPAY.

Property	Type	Required	Editable	Description	Constraint
EnableSsl	Boolean	No	No	Specifies whether to enable the SSL-VPN feature for the VPN gateway.	Default value: false. Valid values: • true • false The SSL-VPN feature provides point-to-site connections. You can use the client to access the VPN without configuring a gateway for the client.
Bandwidth	Integer	Yes	No	The public bandwidth of the VPN gateway.	Valid values: • 5 • 10 • 20 • 50 • 100 Unit: Mbit/s.
InstanceChargeType	String	No	No	The billing method of the VPN gateway.	Set the parameter to PREPAY, which indicates that the billing method is subscription.
SslConnections	Integer	No	No	The maximum number of clients that can be simultaneously connected.	None
Name	String	No	Yes	The name of the VPN gateway.	The name must be 2 to 100 characters in length and can contain letters, digits, underscores (_), and hyphens (-). It must start with a letter and cannot start with `http://` or `https://`. The default value is the ID of the VPN gateway.
Tags	List	No	Yes	The tags of the VPN gateway.	A maximum of 20 tags can be specified. For more information, see the Tags properties section in this topic.

Tags syntax

```
"Tags": [
  {
    "Key": String,
    "Value": String
  }
]
```

Tags properties

Property	Type	Required	Editable	Description	Constraint
Key	String	Yes	No	The tag key.	The tag key must be 1 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.
Value	String	No	No	The tag value.	The tag value must be 0 to 128 characters in length and cannot contain `http://` or `https://`. It cannot start with `acs:` or `aliyun`.

Response parameters

Fn::GetAtt

- OrderId: the order ID.

- VpnGatewayId: the ID of the VPN gateway.
- InternetIp: the public IP address of the VPN gateway.
- SslMaxConnections: the maximum number of SSL-VPN clients that can be connected.
- Spec: the maximum bandwidth of the VPN gateway.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "EnableIpsec": {
      "Type": "Boolean",
      "Description": "Whether to enable IPsec-VPN. The IPsec-VPN feature provides a site-to-site connection. You can securely c
onnect your local data center network to a private network or two proprietary networks by creating an IPsec tunnel. Value:\nTru
e (default): Enables the IPsec-VPN feature.\nFalse: The IPsec-VPN function is not enabled.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": true
    },
    "EnableSsl": {
      "Type": "Boolean",
      "Description": "Enable the SSL-VPN function. Provide point-to-site VPN connection, no need to configure customer gateway,
terminal directly access. Value:\nTrue: Enable SSL-VPN.\nFalse (default): Does not enable SSL-VPN.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "SslConnections": {
      "Type": "Number",
      "Description": "The maximum number of clients allowed to connect at the same time."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the VPN gateway.\nThe length is 2-256 characters and must start with a letter or Chinese,
but cannot start with http:// or https://.",
      "MinLength": 2,
      "MaxLength": 256
    },
    "VpcId": {
      "Type": "String",
      "Description": "VPC ID to which the VPN gateway belongs."
    },
    "InstanceChargeType": {
      "Type": "String",
      "Description": "Accounting type of the VPN gateway, the value is:\nPREPAY, POSTPAY",
      "AllowedValues": [
        "PREPAY",
        "POSTPAY"
      ],
      "Default": "PREPAY"
    },
    "Bandwidth": {
      "Type": "Number",
      "Description": "The public network bandwidth of the VPN gateway, in Mbps.\nValue: 5|10|20|50|100|200.",
      "AllowedValues": [
        5,
        10,
        20,
        50,
        100,
        200
      ]
    },
    "VSwitchId": {
```

```
    "VSwitchId": {
      "Type": "String",
      "Description": "The ID of the VSwitch to which the VPN gateway belongs."
    },
    "Period": {
      "Type": "Number",
      "Description": "Purchase time, value: 1~9|12|24|36.\nWhen the value of the InstanceChargeType parameter is PREPAY, this p
arameter is mandatory.",
      "AllowedValues": [
        1,
        2,
        3,
        4,
        5,
        6,
        7,
        8,
        9,
        12,
        24,
        36
      ]
    },
    "AutoPay": {
      "Type": "Boolean",
      "Description": "Whether to automatically pay the bill of the VPN gateway, the value:\nTrue: Automatically pays the bill f
or the VPN gateway.\nFalse (default): Does not automatically pay the bill for the VPN gateway.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ],
      "Default": false
    },
    "Tags": {
      "Type": "Json",
      "Description": "Tags to attach to instance. Max support 20 tags to add during create instance. Each tag with two properti
es Key and Value, and Key is required.",
      "MaxLength": 20
    },
    "Name": {
      "Type": "String",
      "Description": "Name of the VPN gateway. The default value is the ID of the VPN gateway.\nThe length is 2~100 English or
Chinese characters. It must start with a large or small letter or Chinese. It can contain numbers, underscores (_) and dashes (
-). It cannot start with http:// or https://.",
      "MinLength": 2,
      "MaxLength": 100
    }
  },
  "Resources": {
    "VpnGateway": {
      "Type": "ALIYUN::VPC::VpnGateway",
      "Properties": {
        "EnableIpsec": {
          "Ref": "EnableIpsec"
        },
        "EnableSsl": {
          "Ref": "EnableSsl"
        },
        "SslConnections": {
          "Ref": "SslConnections"
        },
        "Description": {
          "Ref": "Description"
        },
        "VpcId": {
          "Ref": "VpcId"
        },
        "InstanceChargeType": {
          "Ref": "InstanceChargeType"
        },
        "Bandwidth": {
          "Ref": "Bandwidth"
        },
```

```
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "Period": {
          "Ref": "Period"
        },
        "AutoPay": {
          "Ref": "AutoPay"
        },
        "Tags": {
          "Ref": "Tags"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  },
  "Outputs": {
    "InternetIp": {
      "Description": "The public IP address of the VPN gateway.",
      "Value": {
        "Fn::GetAtt": [
          "VpnGateway",
          "InternetIp"
        ]
      }
    },
    "VpnGatewayId": {
      "Description": "ID of the VPN gateway.",
      "Value": {
        "Fn::GetAtt": [
          "VpnGateway",
          "VpnGatewayId"
        ]
      }
    },
    "OrderId": {
      "Description": "The order ID.",
      "Value": {
        "Fn::GetAtt": [
          "VpnGateway",
          "OrderId"
        ]
      }
    },
    "Spec": {
      "Description": "The specification of the VPN gateway.",
      "Value": {
        "Fn::GetAtt": [
          "VpnGateway",
          "Spec"
        ]
      }
    },
    "SslMaxConnections": {
      "Description": "The maximum number of concurrent SSL-VPN connections.",
      "Value": {
        "Fn::GetAtt": [
          "VpnGateway",
          "SslMaxConnections"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  AutoPay:
    AllowedValues:
```

```
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Whether to automatically pay the bill of the VPN gateway, the value:
      True: Automatically pays the bill for the VPN gateway.
      False (default): Does not automatically pay the bill for the VPN gateway.'
    Type: Boolean
  Bandwidth:
    AllowedValues:
    - 5
    - 10
    - 20
    - 50
    - 100
    - 200
    Description: 'The public network bandwidth of the VPN gateway, in Mbps.
      Value: 5|10|20|50|100|200.'
    Type: Number
  Description:
    Description: 'Description of the VPN gateway.
      The length is 2-256 characters and must start with a letter or Chinese, but
      cannot start with http:// or https://.'
    MaxLength: 256
    MinLength: 2
    Type: String
  EnableIpsec:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: true
    Description: 'Whether to enable IPsec-VPN. The IPsec-VPN feature provides a site-to-site
      connection. You can securely connect your local data center network to a private
      network or two proprietary networks by creating an IPsec tunnel. Value:
      True (default): Enables the IPsec-VPN feature.
      False: The IPsec-VPN function is not enabled.'
    Type: Boolean
  EnableSsl:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Default: false
    Description: 'Enable the SSL-VPN function. Provide point-to-site VPN connection,
      no need to configure customer gateway, terminal directly access. Value:
      True: Enable SSL-VPN.
      False (default): Does not enable SSL-VPN.'
    Type: Boolean
  InstanceChargeType:
    AllowedValues:
    - PREPAY
    - POSTPAY
    Default: PREPAY
    Description: 'Accounting type of the VPN gateway, the value is:
      PREPAY, POSTPAY'
    Type: String
  Name:
    Description: 'Name of the VPN gateway. The default value is the ID of the VPN
      gateway.
      The length is 2~100 English or Chinese characters. It must start with a large
      or small letter or Chinese. It can contain numbers, underscores (_) and dashes
      (-). It cannot start with http:// or https://.'
    MaxLength: 100
    MinLength: 2
    Type: String
  Period:
    AllowedValues:
    - 1
    - 2
    - 3
```

```
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 12
    - 24
    - 36
    Description: 'Purchase time, value: 1~9|12|24|36.
      When the value of the InstanceChargeType parameter is PREPAY, this parameter
      is mandatory.'
    Type: Number
  SslConnections:
    Description: The maximum number of clients allowed to connect at the same time.
    Type: Number
  Tags:
    Description: Tags to attach to instance. Max support 20 tags to add during create
      instance. Each tag with two properties Key and Value, and Key is required.
    MaxLength: 20
    Type: Json
  VSwitchId:
    Description: The ID of the VSwitch to which the VPN gateway belongs.
    Type: String
  VpcId:
    Description: VPC ID to which the VPN gateway belongs.
    Type: String
Resources:
  VpnGateway:
    Properties:
      AutoPay:
        Ref: AutoPay
      Bandwidth:
        Ref: Bandwidth
      Description:
        Ref: Description
      EnableIpsec:
        Ref: EnableIpsec
      EnableSsl:
        Ref: EnableSsl
      InstanceChargeType:
        Ref: InstanceChargeType
      Name:
        Ref: Name
      Period:
        Ref: Period
      SslConnections:
        Ref: SslConnections
      Tags:
        Ref: Tags
      VSwitchId:
        Ref: VSwitchId
      VpcId:
        Ref: VpcId
    Type: ALIYUN::VPC::VpnGateway
Outputs:
  InternetIp:
    Description: The public IP address of the VPN gateway.
    Value:
      Fn::GetAtt:
      - VpnGateway
      - InternetIp
  OrderId:
    Description: The order ID.
    Value:
      Fn::GetAtt:
      - VpnGateway
      - OrderId
  Spec:
    Description: The specification of the VPN gateway.
    Value:
      Fn::GetAtt:
      - VpnGateway
      - Spec
  SslMaxConnections:
```

```
  SslMaxConnections:
    Description: The maximum number of concurrent SSL-VPN connections.
    Value:
      Fn::GetAtt:
      - VpnGateway
      - SslMaxConnections
  VpnGatewayId:
    Description: ID of the VPN gateway.
    Value:
      Fn::GetAtt:
      - VpnGateway
      - VpnGatewayId
```

67.33. ALIYUN::VPC::VpnPbrRouteEntry

ALIYUN::VPC::VpnPbrRouteEntry is used to create a policy-based route for a VPN gateway.

Syntax

```
{
  "Type": "ALIYUN::VPC::VpnPbrRouteEntry",
  "Properties": {
    "Description": String,
    "RouteDest": String,
    "OverlayMode": String,
    "VpnGatewayId": String,
    "NextHop": String,
    "RouteSource": String,
    "PublishVpc": Boolean,
    "Weight": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the policy-based route.	None
RouteDest	String	Yes	No	The destination CIDR block of the policy-based route.	None
OverlayMode	String	No	No	The tunneling protocol.	Set the value to Ipsec. The value of Ipsec indicates the IPsec tunneling protocol.
VpnGatewayId	String	Yes	No	The ID of the VPN gateway.	None
NextHop	String	Yes	No	The next hop of the policy-based route.	None
RouteSource	String	Yes	No	The source CIDR block of the policy-based route.	None
PublishVpc	Boolean	Yes	Yes	Specifies whether to advertise the policy-based route to the route table of the associated virtual private cloud (VPC).	Valid values: • true: advertises the policy-based route to the route table of the associated VPC. • false: does not advertise the policy-based route to the route table of the associated VPC.

Property	Type	Required	Editable	Description	Constraint
Weight	Integer	Yes	Yes	The weight of the policy-based route.	Valid values: 0 to 100.

Response parameters

Fn::GetAtt

- RouteDest: the destination CIDR block of the policy-based route.
- VpnGatewayId: the ID of the VPN gateway.
- NextHop: the next hop of the policy-based route.
- RouteSource: the source CIDR block of the policy-based route.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the VPN destination route."
    },
    "RouteDest": {
      "Type": "String",
      "Description": "The destination CIDR block of the destination route."
    },
    "OverlayMode": {
      "Type": "String",
      "Description": "The overlay mode."
    },
    "VpnGatewayId": {
      "Type": "String",
      "Description": "The ID of the VPN Gateway."
    },
    "NextHop": {
      "Type": "String",
      "Description": "The next hop of the destination route entry."
    },
    "RouteSource": {
      "Type": "String",
      "Description": "The source CIDR block of the policy-based route."
    },
    "PublishVpc": {
      "Type": "Boolean",
      "Description": "Indicates whether to publish the destination route to the VPC. Valid values:\ntrue: Publish the destinati
on route to the VPC.\nfalse: Do not publish the destination route to the VPC.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Weight": {
      "Type": "Number",
      "Description": "The weight of the destination route. Valid values: 0|100."
    }
  },
  "Resources": {
    "VpnPbrRouteEntry": {
      "Type": "ALIYUN::VPC::VpnPbrRouteEntry",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "RouteDest": {
          "Ref": "RouteDest"
        },
        "OverlayMode": {
          "Ref": "OverlayMode"
```

```
          "Ref": "OverlayMode"
        },
        "VpnGatewayId": {
          "Ref": "VpnGatewayId"
        },
        "NextHop": {
          "Ref": "NextHop"
        },
        "RouteSource": {
          "Ref": "RouteSource"
        },
        "PublishVpc": {
          "Ref": "PublishVpc"
        },
        "Weight": {
          "Ref": "Weight"
        }
      }
    }
  },
  "Outputs": {
    "RouteDest": {
      "Description": "The destination CIDR block of the destination route.",
      "Value": {
        "Fn::GetAtt": [
          "VpnPbrRouteEntry",
          "RouteDest"
        ]
      }
    },
    "VpnGatewayId": {
      "Description": "The ID of the VPN Gateway.",
      "Value": {
        "Fn::GetAtt": [
          "VpnPbrRouteEntry",
          "VpnGatewayId"
        ]
      }
    },
    "NextHop": {
      "Description": "The next hop of the destination route entry.",
      "Value": {
        "Fn::GetAtt": [
          "VpnPbrRouteEntry",
          "NextHop"
        ]
      }
    },
    "RouteSource": {
      "Description": "The destination CIDR block of the policy-based route.",
      "Value": {
        "Fn::GetAtt": [
          "VpnPbrRouteEntry",
          "RouteSource"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: The description of the VPN destination route.
    Type: String
  NextHop:
    Description: The next hop of the destination route entry.
    Type: String
  OverlayMode:
    Description: The overlay mode.
    Type: String
  PublishVpc:
```

```
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Indicates whether to publish the destination route to the VPC. Valid
      values:
      true: Publish the destination route to the VPC.
      false: Do not publish the destination route to the VPC.'
    Type: Boolean
  RouteDest:
    Description: The destination CIDR block of the destination route.
    Type: String
  RouteSource:
    Description: The source CIDR block of the policy-based route.
    Type: String
  VpnGatewayId:
    Description: The ID of the VPN Gateway.
    Type: String
  Weight:
    Description: 'The weight of the destination route. Valid values: 0|100.'
    Type: Number
Resources:
  VpnPbrRouteEntry:
    Properties:
      Description:
        Ref: Description
      NextHop:
        Ref: NextHop
      OverlayMode:
        Ref: OverlayMode
      PublishVpc:
        Ref: PublishVpc
      RouteDest:
        Ref: RouteDest
      RouteSource:
        Ref: RouteSource
      VpnGatewayId:
        Ref: VpnGatewayId
      Weight:
        Ref: Weight
    Type: ALIYUN::VPC::VpnPbrRouteEntry
Outputs:
  NextHop:
    Description: The next hop of the destination route entry.
    Value:
      Fn::GetAtt:
      - VpnPbrRouteEntry
      - NextHop
  RouteDest:
    Description: The destination CIDR block of the destination route.
    Value:
      Fn::GetAtt:
      - VpnPbrRouteEntry
      - RouteDest
  RouteSource:
    Description: The destination CIDR block of the policy-based route.
    Value:
      Fn::GetAtt:
      - VpnPbrRouteEntry
      - RouteSource
  VpnGatewayId:
    Description: The ID of the VPN Gateway.
    Value:
      Fn::GetAtt:
      - VpnPbrRouteEntry
      - VpnGatewayId
```

67.34. ALIYUN::VPC::VpnRouteEntry

ALIYUN::VPC::VpnRouteEntry is used to create a destination-based route for a VPN gateway.

Syntax

```
{
  "Type": "ALIYUN::VPC::VpnRouteEntry",
  "Properties": {
    "Description": String,
    "RouteDest": String,
    "OverlayMode": String,
    "VpnGatewayId": String,
    "NextHop": String,
    "PublishVpc": Boolean,
    "Weight": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	No	No	The description of the destination-based route.	None
RouteDest	String	Yes	No	The destination CIDR block of the destination-based route.	None
OverlayMode	String	No	No	The tunneling protocol.	Set the value to Ipsec. The value of Ipsec indicates the IPsec tunneling protocol.
VpnGatewayId	String	Yes	No	The ID of the VPN gateway.	None
NextHop	String	Yes	No	The next hop of the destination-based route.	None
PublishVpc	Boolean	Yes	Yes	Specifies whether to advertise the destination-based route to the route table of the associated virtual private cloud (VPC).	Valid values: • true: advertises the destination-based route to the route table of the associated VPC. • false: does not advertise the destination-based route to the route table of the associated VPC.
Weight	Integer	Yes	Yes	The weight of the destination-based route.	Valid values: 0 to 100.

Response parameters

Fn::GetAtt

- RouteDest: the destination CIDR block of the destination-based route.
- VpnGatewayId: the ID of the VPN gateway.
- NextHop: the next hop of the destination-based route.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "The description of the VPN destination route."
    },
    "RouteDest": {
      "Type": "String",
```

```
      "Description": "The destination CIDR block of the destination route."
    },
    "OverlayMode": {
      "Type": "String",
      "Description": "The overlay mode."
    },
    "VpnGatewayId": {
      "Type": "String",
      "Description": "The ID of the VPN Gateway."
    },
    "NextHop": {
      "Type": "String",
      "Description": "The next hop of the destination route entry."
    },
    "PublishVpc": {
      "Type": "Boolean",
      "Description": "Indicates whether to publish the destination route to the VPC. Valid values:\ntrue: Publish the destinati
on route to the VPC.\nfalse: Do not publish the destination route to the VPC.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Weight": {
      "Type": "Number",
      "Description": "The weight of the destination route. Valid values: 0|100."
    }
  },
  "Resources": {
    "VpnRouteEntry": {
      "Type": "ALIYUN::VPC::VpnRouteEntry",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "RouteDest": {
          "Ref": "RouteDest"
        },
        "OverlayMode": {
          "Ref": "OverlayMode"
        },
        "VpnGatewayId": {
          "Ref": "VpnGatewayId"
        },
        "NextHop": {
          "Ref": "NextHop"
        },
        "PublishVpc": {
          "Ref": "PublishVpc"
        },
        "Weight": {
          "Ref": "Weight"
        }
      }
    }
  },
  "Outputs": {
    "RouteDest": {
      "Description": "The destination CIDR block of the destination route.",
      "Value": {
        "Fn::GetAtt": [
          "VpnRouteEntry",
          "RouteDest"
        ]
      }
    },
    "VpnGatewayId": {
      "Description": "The ID of the VPN Gateway.",
      "Value": {
        "Fn::GetAtt": [
          "VpnRouteEntry",
          "VpnGatewayId"
        ]
```

```
        ]
      }
    },
    "NextHop": {
      "Description": "The next hop of the destination route entry.",
      "Value": {
        "Fn::GetAtt": [
          "VpnRouteEntry",
          "NextHop"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Description:
    Description: The description of the VPN destination route.
    Type: String
  NextHop:
    Description: The next hop of the destination route entry.
    Type: String
  OverlayMode:
    Description: The overlay mode.
    Type: String
  PublishVpc:
    AllowedValues:
    - 'True'
    - 'true'
    - 'False'
    - 'false'
    Description: 'Indicates whether to publish the destination route to the VPC. Valid
      values:
      true: Publish the destination route to the VPC.
      false: Do not publish the destination route to the VPC.'
    Type: Boolean
  RouteDest:
    Description: The destination CIDR block of the destination route.
    Type: String
  VpnGatewayId:
    Description: The ID of the VPN Gateway.
    Type: String
  Weight:
    Description: 'The weight of the destination route. Valid values: 0|100.'
    Type: Number
Resources:
  VpnRouteEntry:
    Properties:
      Description:
        Ref: Description
      NextHop:
        Ref: NextHop
      OverlayMode:
        Ref: OverlayMode
      PublishVpc:
        Ref: PublishVpc
      RouteDest:
        Ref: RouteDest
      VpnGatewayId:
        Ref: VpnGatewayId
      Weight:
        Ref: Weight
    Type: ALIYUN::VPC::VpnRouteEntry
Outputs:
  NextHop:
    Description: The next hop of the destination route entry.
    Value:
      Fn::GetAtt:
      - VpnRouteEntry
      - NextHop
  RouteDest:
    Description: The destination CIDR block of the destination route.
    Value:
      Fn::GetAtt:
      - VpnRouteEntry
      - RouteDest
  VpnGatewayId:
    Description: The ID of the VPN Gateway.
    Value:
      Fn::GetAtt:
      - VpnRouteEntry
      - VpnGatewayId
```

67.35. DATASOURCE::VPC::Vpcs

DATASOURCE::VPC::Vpcs is used to query the virtual private clouds (VPCs) that you create.

Syntax

```
{
  "Type": "DATASOURCE::VPC::Vpcs",
  "Properties": {
    "IsDefault": Boolean,
    "DhcpOptionsSetId": String,
    "ResourceGroupId": String,
    "VpcIds": List,
    "VpcName": String,
    "VpcOwnerId": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
IsDefault	Boolean	No	Yes	Specifies whether to query the default VPC in the region where the stack is deployed.	Default value: true. Valid values: • true • false
DhcpOptionsSetId	String	No	Yes	The ID of the Dynamic Host Configuration Protocol (DHCP) options set.	None.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the VPC belongs.	None.
VpcIds	List	No	Yes	The IDs of VPCs.	You can specify up to 20 IDs.
VpcName	String	No	Yes	The name of the VPC.	None.
VpcOwnerId	String	No	Yes	The ID of the Alibaba Cloud account to which the VPC belongs.	None.

Return values (Fn::GetAtt)

Property	Type	Description	Constraint
VpcIds	List	The IDs of VPCs.	Example: `["vpc-bp17er0y7lbw5ovjw****", "vpc-bp1ww1tfitr8bpq23****"]`.
Vpcs	List	The details of the VPCs.	None.
Status	String	The status of the VPC.	Valid values: • Pending: The VPC is being configured. • Available: The VPC is available.
VpcId	String	The ID of the VPC.	Example: `vpc-bp1qpo0kug3a20qqe****`.
IsDefault	Boolean	Indicates whether the default VPC in the region where the stack is deployed is queried.	Valid values: • true • false
OwnerId	String	The ID of the Alibaba Cloud account to which the VPC belongs.	None.
VpcName	String	The name of the VPC.	None.

Property	Type	Description	Constraint
VRouterId	String	The ID of the vRouter that is automatically created by the system after the VPC is created.	Example: `vrt-bp1jcg5cmxjbl9xgc****`.
DhcpOptionsSetStatus	String	The status of the DHCP options set.	Valid values: • Available: The DHCP options set is available. • InUse: The DHCP options set is being used. • Deleted: The DHCP options set is deleted. • Pending: The DHCP options set is being configured.
CidrBlock	String	The IPv4 CIDR block of the VPC.	None.
Description	String	The description of the VPC.	None.
ResourceGroupId	String	The ID of the resource group to which the VPC belongs.	Example: `rg-bp67acfmxazb4p****`.
DhcpOptionsSetId	String	The ID of the DHCP options set.	Example: `dopt-o6w0df4epg9zo8isy****`.
Ipv6CidrBlock	String	The IPv6 CIDR block of the VPC.	None.
CenStatus	String	The status of the Cloud Enterprise Network (CEN) instance to which the VPC is attached.	The value must be Attached, which indicates that the VPC is attached to a CEN instance. This property is returned when the VPC is attached to a CEN instance.
Tags	List	The tags of the VPC.	Example: `[{ "Value": "abc", "Key": "test" }]`
Ipv6CidrBlocks	List	The IPv6 CIDR blocks of the VPC.	None.
VSwitchIds	List	The IDs of vSwitches.	Example: `[vsw-bp1nhbnpv2blyz8dl****]`.
SecondaryCidrBlocks	List	The secondary IPv4 CIDR blocks of the VPC.	None.
UserCidrs	List	The user CIDR blocks of the VPC.	Example: `[10.0.0.0/8]`.
NatGatewayIds	List	The IDs of NAT gateways.	Example: `[nat-245xxxftwt45bg****]`.
RouterTableIds	List	The IDs of route tables.	Example: `[vtb-bp1krxxzp0c29fmon****]`.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcName": {
      "Type": "String",
      "Description": "The name of the VPC.",
      "Default": "TestVpc"
    }
  },
  "Resources": {
    "ExtensionDataSource": {
      "Type": "DATASOURCE::VPC::Vpcs",
      "Properties": {
        "VpcName": {
          "Ref": "VpcName"
        }
      }
    }
  },
  "Outputs": {
    "Vpcs": {
      "Description": "The detailed information about the VPCs.",
      "Value": {
        "Fn::GetAtt": [
          "ExtensionDataSource",
          "Vpcs"
        ]
      }
    },
    "VpcIds": {
      "Description": "The list of The VPC IDs.",
      "Value": {
        "Fn::GetAtt": [
          "ExtensionDataSource",
          "VpcIds"
        ]
      }
    }
  }
}
```

67.36. DATASOURCE::VPC::VSwitches

DATASOURCE::VPC::VSwitches is used to query the vSwitches that you create.

Syntax

```
{
  "Type": "DATASOURCE::VPC::VSwitches",
  "Properties": {
    "IsDefault": Boolean,
    "DhcpOptionsSetId": String,
    "RouteTableId": String,
    "VpcId": String,
    "ResourceGroupId": String,
    "VSwitchIds": List,
    "VSwitchOwnerId": String,
    "VSwitchName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
IsDefault	Boolean	No	Yes	Specifies whether to query the default vSwitch in the region where the stack is deployed.	Default value: true. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
DhcpOptionsSetId	String	No	Yes	The ID of the Dynamic Host Configuration Protocol (DHCP) options set.	None.
RouteTableId	String	No	Yes	The ID of the route table.	None.
VpcId	String	No	Yes	The ID of the virtual private cloud (VPC) to which the vSwitch belongs.	None.
ResourceGroupId	String	No	Yes	The ID of the resource group to which the vSwitch belongs.	None.
VSwitchIds	List	No	Yes	The IDs of vSwitches.	You can specify up to 20 vSwitch IDs.
`VSwitchOwnerId`	String	No	Yes	The ID of the Alibaba Cloud account to which the vSwitch belongs.	None.
VSwitchName	String	No	Yes	The name of the vSwitch.	None.

Return values (Fn::GetAtt)

Property	Type	Description	Constraint
VSwitchIds	List	The IDs of vSwitches.	Example: `['vsw-bp1g7w2q0t1ybav6****','vsw-ag457w2q0t1yba35****']`.
VSwitches	List	The details of the vSwitches.	None.
VpcId	String	The ID of the VPC to which the vSwitch belongs.	Example: `vpc-257gcdcdq64****`.
Status	String	The status of the vSwitch.	Valid values: • Pending: The vSwitch is being configured. • Available: The vSwitch is available.
IsDefault	Boolean	Indicates whether the default vSwitch in the region where the stack is deployed is queried.	Valid values: • true • false
AvailableIpAddressCount	String	The number of available IP addresses in the vSwitch.	None.
NetworkAclId	String	The ID of the network access control list (ACL).	Example: `nacl-a2do9e413e0spzasx****`.
VSwitchId	String	The ID of the vSwitch.	Example: `vsw-25bcdxs7pv1****`.
CidrBlock	String	The IPv4 CIDR block of the vSwitch.	None.
Description	String	The description of the vSwitch.	None.
ResourceGroupId	String	The ID of the resource group to which the vSwitch belongs.	Example: `rg-acfmxazb4ph6aiy****`.

Property	Type	Description	Constraint
ZoneId	String	The ID of the zone to which the vSwitch belongs.	None.
Ipv6CidrBlock	String	The IPv6 CIDR block of the vSwitch.	None.
VSwitchName	String	The name of the vSwitch.	None.
Tags	List	The tags of the vSwitch.	Example: `[{ "Value": "", "Key": "do-not-delete" }]`
RouteTable	List	The details of the route table.	Example: `{ "RouteTableId": "vtb-bp1rne1a22e0dlwvd****", "RouteTableType": "System" }`

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcId": {
      "Type": "String",
      "Description": "The ID of the VPC to which the vSwitch belongs.",
      "Default": "vpc-257gcdcdq64****"
    }
  },
  "Resources": {
    "ExtensionDataSource": {
      "Type": "DATASOURCE::VPC::VSwitches",
      "Properties": {
        "VpcId": {
          "Ref": "VpcId"
        }
      }
    }
  },
  "Outputs": {
    "VSwitchIds": {
      "Description": "The list of The vSwitch Ids.",
      "Value": {
        "Fn::GetAtt": [
          "ExtensionDataSource",
          "VSwitchIds"
        ]
      }
    },
    "VSwitches": {
      "Description": "The detailed information about the vSwitches.",
      "Value": {
        "Fn::GetAtt": [
          "ExtensionDataSource",
          "VSwitches"
        ]
      }
    }
  }
}
```

68.VS

68.1. ALIYUN::VS::Group

ALIYUN::VS::Group is used to create a group.

Syntax

```
{
  "Type": "ALIYUN::VS::Group",
  "Properties": {
    "OutProtocol": String,
    "Name": String,
    "App": String,
    "Enabled": Boolean,
    "Callback": String,
    "InProtocol": String,
    "Region": String,
    "PlayDomain": String,
    "LazyPull": Boolean,
    "PushDomain": String,
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
OutProtocol	String	Yes	Yes	The playback protocol to be used by the group.	Valid values: • flv • hls • rtmp Separate multiple values with commas (,).
Name	String	Yes	Yes	The name of the group.	The name must be 4 to 64 characters in length and can contain letters, digits, and hyphens (-).
App	String	No	No	The name of the application to be used by the group.	Default value: live. The name can contain letters, digits, underscores (_), and hyphens (-).
Enabled	Boolean	No	Yes	Specifies whether to enable the group.	Default value: false. Valid values: • true • false
Callback	String	No	Yes	The callback URL to which notifications will be sent when the status of the device or stream is updated.	None
InProtocol	String	Yes	Yes	The access protocol to be used by the group.	Valid values: • gb28181 • rtmp
Region	String	Yes	Yes	The region where the group resides, which is also known as the service center.	None

Property	Type	Required	Editable	Description	Constraint
PlayDomain	String	Yes	Yes	The streaming domain to be used by the group.	None
LazyPull	Boolean	No	Yes	Specifies whether to enable on-demand stream pulling.	Default value: false. Valid values: • true • false
PushDomain	String	Yes	Yes	The ingest domain to be used by the group.	This parameter takes effect only when the InProtocol parameter is set to rtmp.
Description	String	No	Yes	The description of the group.	None

Response parameters

Fn::GetAtt

- GbIp: the IP address of the GB28181 signaling server, which is provided by the group. GbIp is only applicable to groups that use the GB28181 protocol.
- GbId: the ID used in the national standard GB/T28181, which is provided by the group. GbId is only applicable to groups that use the GB28181 protocol.
- GbPort: the port of the GB28181 signaling server, which is provided by the group. GbPort is only applicable to groups that use the GB28181 protocol.
- Id: the ID of the group.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Group": {
      "Type": "ALIYUN::VS::Group",
      "Properties": {
        "LazyPull": {
          "Ref": "LazyPull"
        },
        "Name": {
          "Ref": "Name"
        },
        "App": {
          "Ref": "App"
        },
        "Enabled": {
          "Ref": "Enabled"
        },
        "PushDomain": {
          "Ref": "PushDomain"
        },
        "Callback": {
          "Ref": "Callback"
        },
        "InProtocol": {
          "Ref": "InProtocol"
        },
        "PlayDomain": {
          "Ref": "PlayDomain"
        },
        "OutProtocol": {
          "Ref": "OutProtocol"
        },
        "Region": {
          "Ref": "Region"
        },
        "Description": {
          "Ref": "Description"
```

```
        }
      }
    }
  },
  "Parameters": {
    "LazyPull": {
      "Type": "Boolean",
      "Description": "Whether to enable on-demand pull flow, default false",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "Name": {
      "Type": "String",
      "Description": "Space name."
    },
    "App": {
      "Type": "String",
      "Description": "Application name space used, the default live."
    },
    "Enabled": {
      "Type": "Boolean",
      "Description": "Space is enabled.",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "PushDomain": {
      "Type": "String",
      "Description": "Plug flow domain name space to use. (Only access to the space rtmp)"
    },
    "Callback": {
      "Type": "String",
      "Description": "Updating the space callback device / flow state"
    },
    "InProtocol": {
      "Type": "String",
      "Description": "Access protocol used by the space.\nValue: gb28181, rtmp"
    },
    "PlayDomain": {
      "Type": "String",
      "Description": "Use of the domain name space broadcast stream."
    },
    "OutProtocol": {
      "Type": "String",
      "Description": "Play protocol used by the space, multivalued separated by commas.\nValue: flv, hls, rtmp"
    },
    "Region": {
      "Type": "String",
      "Description": "Space belongs to the region, as a service center."
    },
    "Description": {
      "Type": "String",
      "Description": "Space description."
    }
  },
  "Outputs": {
    "GbIp": {
      "Description": "GB signaling server address space provided. (Applies only to access the space marked States)",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GbIp"
        ]
      }
    },
    "GbPort": {
      "Description": "GB Port space provided. (Applies only to access the space marked States)",
```

```
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GbPort"
        ]
      }
    },
    "GbId": {
      "Description": "GB ID space provided. (Applies only to access the space marked States)",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "GbId"
        ]
      }
    },
    "Id": {
      "Description": "Space ID.",
      "Value": {
        "Fn::GetAtt": [
          "Group",
          "Id"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  Group:
    Type: 'ALIYUN::VS::Group'
    Properties:
      LazyPull:
        Ref: LazyPull
      Name:
        Ref: Name
      App:
        Ref: App
      Enabled:
        Ref: Enabled
      PushDomain:
        Ref: PushDomain
      Callback:
        Ref: Callback
      InProtocol:
        Ref: InProtocol
      PlayDomain:
        Ref: PlayDomain
      OutProtocol:
        Ref: OutProtocol
      Region:
        Ref: Region
      Description:
        Ref: Description
Parameters:
  LazyPull:
    Type: Boolean
    Description: 'Whether to enable on-demand pull flow, default false'
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  Name:
    Type: String
    Description: Space name.
  App:
    Type: String
    Description: 'Application name space used, the default live.'
  Enabled:
    Type: Boolean
```

```
    Description: Space is enabled.
    AllowedValues:
      - 'True'
      - 'true'
      - 'False'
      - 'false'
  PushDomain:
    Type: String
    Description: Plug flow domain name space to use. (Only access to the space rtmp)
  Callback:
    Type: String
    Description: Updating the space callback device / flow state
  InProtocol:
    Type: String
    Description: |-
      Access protocol used by the space.
      Value: gb28181, rtmp
  PlayDomain:
    Type: String
    Description: Use of the domain name space broadcast stream.
  OutProtocol:
    Type: String
    Description: |-
      Play protocol used by the space, multivalued separated by commas.
      Value: flv, hls, rtmp
  Region:
    Type: String
    Description: 'Space belongs to the region, as a service center.'
  Description:
    Type: String
    Description: Space description.
Outputs:
  GbIp:
    Description: >-
      GB signaling server address space provided. (Applies only to access the
      space marked States)
    Value:
      'Fn::GetAtt':
        - Group
        - GbIp
  GbPort:
    Description: GB Port space provided. (Applies only to access the space marked States)
    Value:
      'Fn::GetAtt':
        - Group
        - GbPort
  GbId:
    Description: GB ID space provided. (Applies only to access the space marked States)
    Value:
      'Fn::GetAtt':
        - Group
        - GbId
  Id:
    Description: Space ID.
    Value:
      'Fn::GetAtt':
        - Group
        - Id
```

69.WAF

69.1. ALIYUN::WAF::AclRule

ALIYUN::WAF::AclRule is used to add an HTTP access control list (ACL) rule for a specified domain name.

Syntax

```
{
  "Type": "ALIYUN::WAF::AclRule",
  "Properties": {
    "Rules": String,
    "InstanceId": String,
    "Domain": String,
    "Region": String,
    "RuleId": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Rules	String	Yes	No	The detailed information of the HTTP ACL rule in the JSON format.	None
InstanceId	String	Yes	No	The ID of the Web Application Firewall (WAF) instance.	None
Domain	String	Yes	No	The domain name.	None
Region	String	No	No	The region where the WAF instance resides.	Default value: cn. Valid values: • cn: mainland China • cn-hongkong: the China (Hong Kong) region and regions outside China
RuleId	Integer	No	No	The ID of the HTTP ACL rule.	None

Response parameters

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AclRule": {
      "Type": "ALIYUN::WAF::AclRule",
      "Properties": {
        "Rules": {
          "Ref": "Rules"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "Domain": {
          "Ref": "Domain"
        },
        "Region": {
          "Ref": "Region"
        },
        "RuleId": {
          "Ref": "RuleId"
        }
      }
    }
  },
  "Parameters": {
    "Rules": {
      "Type": "String",
      "Description": "Detailed information of precise access control rules, expressed in JSON format strings."
    },
    "InstanceId": {
      "Type": "String",
      "Description": "WAF instance ID. Description Interface You can view your current WAF instance ID by calling DescribePayIn
fo."
    },
    "Domain": {
      "Type": "String",
      "Description": "Domain name."
    },
    "Region": {
      "Type": "String",
      "Description": "The region where the WAF instance is located.
       Default value: cn.Valid
       values:
       cn: mainland China
       cn-hongkong: Hong Kong (China) and outside China"
      "AllowedValues": [
        "cn",
        "cn-hongkong"
      ]
    },
    "RuleId": {
      "Type": "Number",
      "Description": "Precise access control rule ID"
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  AclRule:
    Type: ALIYUN::WAF::AclRule
    Properties:
      Rules:
        Ref: Rules
      InstanceId:
        Ref: InstanceId
      Domain:
        Ref: Domain
      Region:
        Ref: Region
      RuleId:
        Ref: RuleId
Parameters:
  Rules:
    Type: String
    Description: Detailed information of precise access control rules, expressed in
      JSON format strings.
  InstanceId:
    Type: String
    Description: WAF instance ID. Description Interface You can view your current
      WAF instance ID by calling DescribePayInfo.
  Domain:
    Type: String
    Description: Domain name.
  Region:
    Type: String
    Description: 'The region where the WAF instance is located.
       Default value: cn.Valid
       values:
       cn: mainland China
       cn-hongkong: Hong Kong (China) and outside China'
    AllowedValues:
    - cn
    - cn-hongkong
  RuleId:
    Type: Number
    Description: Precise access control rule ID
```

69.2. ALIYUN::WAF::Domain

ALIYUN::WAF::Domain is used to add a domain to Web Application Firewall (WAF).

Syntax

```
{
  "Type": "ALIYUN::WAF::Domain",
  "Properties": {
    "HttpToUserIp": String,
    "HttpPort": List,
    "IsAccessProduct": String,
    "ResourceGroupId": String,
    "DomainName": String,
    "InstanceId": String,
    "SourceIps": List,
    "ReadTime": Integer,
    "ClusterType": String,
    "LoadBalancing": String,
    "LogHeaders": List,
    "WriteTime": Integer,
    "Http2Port": List,
    "ConnectionTime": Integer,
    "HttpsRedirect": String,
    "HttpsPort": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
HttpToUserIp	String	No	Yes	Specifies whether to enable the HTTP back-to-origin feature. After the feature is enabled, the WAF instance can use HTTP to forward HTTPS requests to the origin. By default, port 80 is used to forward the requests to the origin.	Default value: 0. Valid values: • 0: disables the HTTP back-to-origin feature. • 1: enables the HTTP back-to-origin feature. Note If your website does not support HTTPS access, you can enable the HTTP back-to-origin feature to enable HTTPS access through WAF.
HttpPort	List	No	Yes	The HTTP port.	Separate multiple ports with commas (,). Note Specify this parameter only if you want to use the HTTP protocol. You must specify at least one of the HttpPort and HttpsPort parameters.
IsAccessProduct	String	Yes	Yes	Specifies whether the domain has a Layer-7 proxy configured, such as Anti-DDoS Pro or CDN, to filter the inbound traffic before it is forwarded to WAF. Valid values:	Valid values: • 0: no • 1: yes
ResourceGroupId	String	No	No	The ID of the resource group to which the domain belongs in Resource Management.	None
DomainName	String	Yes	No	The domain name.	None
InstanceId	String	Yes	No	The ID of the WAF instance.	None
SourceIps	List	Yes	Yes	The IP addresses or domain of the origin server to which the specified domain points.	You can specify IP addresses or a domain. • A maximum of 20 IP addresses are supported. Separate multiple IP addresses with commas (,). • Only one domain is supported.

Property	Type	Required	Editable	Description	Constraint
ReadTime	Integer	No	Yes	The timeout period that is specified for read connections of WAF exclusive clusters.	You can specify this parameter when you use exclusive clusters to protect resources. Unit: seconds.
ClusterType	String	No	Yes	The type of the WAF cluster.	Default value: 0. Valid values: • 0: The shared cluster. • 1: The exclusive cluster.
LoadBalancing	String	No	Yes	The load balancing algorithm that is used when WAF forwards requests to the origin.	Valid values: • 0: IP hash • 1: round robin
LogHeaders	List	No	Yes	The key-value pair that is used to mark the traffic that flows through WAF to the domain. Specify the key-value pair in the `[{"k":"_key_","v":"_value_"}]` format. `_key_` specifies a header field in a custom request. `_value_` specifies the value of the field. WAF automatically marks the requests that pass through WAF by adding the specified field and value to the headers of these requests.	If a request header contains the specified field, WAF overwrites the original field value with the specified value.
WriteTime	Integer	No	Yes	The timeout period that is specified for write connections of WAF exclusive clusters.	You can specify this parameter when you use exclusive clusters to protect resources. Unit: seconds.
Http2Port	List	No	Yes	The HTTP 2.0 ports.	Separate multiple ports with commas (,).
ConnectionTime	Integer	No	Yes	The timeout period that is specified for connections of WAF exclusive clusters.	You can specify this parameter when you use exclusive clusters to protect resources. Unit: seconds.

Property	Type	Required	Editable	Description	Constraint
HttpsRedirect	String	No	Yes	Specifies whether to redirect HTTP requests as HTTPS requests.	Default value: 0. Valid values: • 0: HTTP requests are not redirected as HTTPS requests. • 1: HTTP requests are redirected as HTTPS requests. This parameter is required only if the specified domain accepts HTTPS requests. After you enable this feature, HTTP requests are redirected to HTTPS port 443.
HttpsPort	List	No	Yes	The HTTPS port.	Separate multiple HTTPS ports with commas (,). Specify this parameter only if you want to use the HTTPS protocol. You must specify at least one of the HttpPort and HttpsPort parameters.

Response parameters

Fn::GetAtt

- HttpToUserIp: indicates whether the HTTP back-to-origin feature is enabled.
- HttpPort: the HTTP port.
- IsAccessProduct: indicates whether the domain has a Layer-7 proxy configured to filter the inbound traffic before the traffic is forwarded to WAF.
- ResourceGroupId: the ID of the resource group to which the domain belongs.
- DomainName: the domain name.
- InstanceId: the ID of the WAF instance.
- SourceIps: the IP addresses or domain of the origin server to which the specified domain points.
- ReadTime: the timeout period that is specified for read connections of WAF exclusive clusters.
- ClusterType: the type of the WAF cluster.
- Cname: the CNAME record assigned by the WAF instance to the specified domain.
- LoadBalancing: the load balancing algorithm that is used when WAF forwards requests to the origin.
- LogHeaders: the key-value pair that is used to mark the traffic that flows through WAF to the domain.
- WriteTime: the timeout period that is specified for write connections of WAF exclusive clusters.
- Http2Port: the HTTP 2.0 ports.
- Version: the version of optimistic locking.
- ConnectionTime: the timeout period that is specified for connections of WAF exclusive clusters.
- HttpsRedirect: indicates whether HTTP requests are redirected as HTTPS requests.
- HttpsPort: the HTTPS ports.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "HttpToUserIp": {
      "Type": "String",
      "Description": "Http back to source"
    },
    "HttpPort": {
```

```
      "Type": "Json",
      "Description": "Http port configuration"
    },
    "IsAccessProduct": {
      "Type": "String",
      "Description": "Is there a seven-layer agency before WAF"
    },
    "ResourceGroupId": {
      "Type": "String",
      "Description": "Resource group Id"
    },
    "DomainName": {
      "Type": "String",
      "Description": "Domain name"
    },
    "InstanceId": {
      "Type": "String",
      "Description": "Instance id"
    },
    "SourceIps": {
      "Type": "Json",
      "Description": "Back to source IP configuration"
    },
    "ReadTime": {
      "Type": "Number",
      "Description": "Read connection timeout period"
    },
    "ClusterType": {
      "Type": "String",
      "Description": "Cluster type"
    },
    "LoadBalancing": {
      "Type": "String",
      "Description": "Load balancing configuration"
    },
    "LogHeaders": {
      "Type": "Json",
      "Description": "Domain traffic tagging"
    },
    "WriteTime": {
      "Type": "Number",
      "Description": "Write connection timeout period"
    },
    "Http2Port": {
      "Type": "Json",
      "Description": "Http2 port configuration"
    },
    "ConnectionTime": {
      "Type": "Number",
      "Description": "Connection timeout"
    },
    "HttpsRedirect": {
      "Type": "String",
      "Description": "Https forced redirect configuration"
    },
    "HttpsPort": {
      "Type": "Json",
      "Description": "Https port configuration"
    }
  },
  "Resources": {
    "WAFDomain": {
      "Type": "ALIYUN::WAF::Domain",
      "Properties": {
        "HttpToUserIp": {
          "Ref": "HttpToUserIp"
        },
        "HttpPort": {
          "Ref": "HttpPort"
        },
        "IsAccessProduct": {
          "Ref": "IsAccessProduct"
        },
        "ResourceGroupId": {
```

```
          "Ref": "ResourceGroupId"
        },
        "DomainName": {
          "Ref": "DomainName"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "SourceIps": {
          "Ref": "SourceIps"
        },
        "ReadTime": {
          "Ref": "ReadTime"
        },
        "ClusterType": {
          "Ref": "ClusterType"
        },
        "LoadBalancing": {
          "Ref": "LoadBalancing"
        },
        "LogHeaders": {
          "Ref": "LogHeaders"
        },
        "WriteTime": {
          "Ref": "WriteTime"
        },
        "Http2Port": {
          "Ref": "Http2Port"
        },
        "ConnectionTime": {
          "Ref": "ConnectionTime"
        },
        "HttpsRedirect": {
          "Ref": "HttpsRedirect"
        },
        "HttpsPort": {
          "Ref": "HttpsPort"
        }
      }
    }
  },
  "Outputs": {
    "HttpToUserIp": {
      "Description": "Http back to source",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "HttpToUserIp"
        ]
      }
    },
    "HttpPort": {
      "Description": "Http port configuration",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "HttpPort"
        ]
      }
    },
    "IsAccessProduct": {
      "Description": "Is there a seven-layer agency before WAF",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "IsAccessProduct"
        ]
      }
    },
    "ResourceGroupId": {
      "Description": "Resource group Id",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "ResourceGroupId"
```

```
          "ResourceGroupId"
        ]
      }
    },
    "DomainName": {
      "Description": "Domain name",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "DomainName"
        ]
      }
    },
    "InstanceId": {
      "Description": "Instance id",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "InstanceId"
        ]
      }
    },
    "SourceIps": {
      "Description": "Back to source IP configuration",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "SourceIps"
        ]
      }
    },
    "ReadTime": {
      "Description": "Read connection timeout period",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "ReadTime"
        ]
      }
    },
    "ClusterType": {
      "Description": "Cluster type",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "ClusterType"
        ]
      }
    },
    "Cname": {
      "Description": "CNAME assigned by WAF instance",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "Cname"
        ]
      }
    },
    "LoadBalancing": {
      "Description": "Load balancing configuration",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "LoadBalancing"
        ]
      }
    },
    "LogHeaders": {
      "Description": "Domain traffic tagging",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "LogHeaders"
        ]
      }
```

```
    },
    "WriteTime": {
      "Description": "Write connection timeout period",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "WriteTime"
        ]
      }
    },
    "Http2Port": {
      "Description": "Http2 port configuration",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "Http2Port"
        ]
      }
    },
    "Version": {
      "Description": "Optimistic lock version",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "Version"
        ]
      }
    },
    "ConnectionTime": {
      "Description": "Connection timeout",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "ConnectionTime"
        ]
      }
    },
    "HttpsRedirect": {
      "Description": "Https forced redirect configuration",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "HttpsRedirect"
        ]
      }
    },
    "HttpsPort": {
      "Description": "Https port configuration",
      "Value": {
        "Fn::GetAtt": [
          "WAFDomain",
          "HttpsPort"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  HttpToUserIp:
    Type: String
    Description: Http back to source
  HttpPort:
    Type: Json
    Description: Http port configuration
  IsAccessProduct:
    Type: String
    Description: Is there a seven-layer agency before WAF
  ResourceGroupId:
    Type: String
```

```
    Description: Resource group Id
  DomainName:
    Type: String
    Description: Domain name
  InstanceId:
    Type: String
    Description: Instance id
  SourceIps:
    Type: Json
    Description: Back to source IP configuration
  ReadTime:
    Type: Number
    Description: Read connection timeout period
  ClusterType:
    Type: String
    Description: Cluster type
  LoadBalancing:
    Type: String
    Description: Load balancing configuration
  LogHeaders:
    Type: Json
    Description: Domain traffic tagging
  WriteTime:
    Type: Number
    Description: Write connection timeout period
  Http2Port:
    Type: Json
    Description: Http2 port configuration
  ConnectionTime:
    Type: Number
    Description: Connection timeout
  HttpsRedirect:
    Type: String
    Description: Https forced redirect configuration
  HttpsPort:
    Type: Json
    Description: Https port configuration
Resources:
  WAFDomain:
    Type: 'ALIYUN::WAF::Domain'
    Properties:
      HttpToUserIp:
        Ref: HttpToUserIp
      HttpPort:
        Ref: HttpPort
      IsAccessProduct:
        Ref: IsAccessProduct
      ResourceGroupId:
        Ref: ResourceGroupId
      DomainName:
        Ref: DomainName
      InstanceId:
        Ref: InstanceId
      SourceIps:
        Ref: SourceIps
      ReadTime:
        Ref: ReadTime
      ClusterType:
        Ref: ClusterType
      LoadBalancing:
        Ref: LoadBalancing
      LogHeaders:
        Ref: LogHeaders
      WriteTime:
        Ref: WriteTime
      Http2Port:
        Ref: Http2Port
      ConnectionTime:
        Ref: ConnectionTime
      HttpsRedirect:
        Ref: HttpsRedirect
      HttpsPort:
        Ref: HttpsPort
Outputs:
```

```
  HttpToUserIp:
    Description: Http back to source
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - HttpToUserIp
  HttpPort:
    Description: Http port configuration
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - HttpPort
  IsAccessProduct:
    Description: Is there a seven-layer agency before WAF
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - IsAccessProduct
  ResourceGroupId:
    Description: Resource group Id
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - ResourceGroupId
  DomainName:
    Description: Domain name
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - DomainName
  InstanceId:
    Description: Instance id
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - InstanceId
  SourceIps:
    Description: Back to source IP configuration
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - SourceIps
  ReadTime:
    Description: Read connection timeout period
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - ReadTime
  ClusterType:
    Description: Cluster type
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - ClusterType
  Cname:
    Description: CNAME assigned by WAF instance
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - Cname
  LoadBalancing:
    Description: Load balancing configuration
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - LoadBalancing
  LogHeaders:
    Description: Domain traffic tagging
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - LogHeaders
  WriteTime:
    Description: Write connection timeout period
    Value:
```

```
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - WriteTime
  Http2Port:
    Description: Http2 port configuration
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - Http2Port
  Version:
    Description: Optimistic lock version
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - Version
  ConnectionTime:
    Description: Connection timeout
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - ConnectionTime
  HttpsRedirect:
    Description: Https forced redirect configuration
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - HttpsRedirect
  HttpsPort:
    Description: Https port configuration
    Value:
      'Fn::GetAtt':
        - WAFDomain
        - HttpsPort
```

69.3. ALIYUN::WAF::DomainConfig

ALIYUN::CDN::DomainConfig is used to add domain name settings.

Syntax

```
{
  "Type": "ALIYUN::WAF::DomainConfig",
  "Properties": {
    "HttpToUserIp": Integer,
    "Domain": String,
    "SourceIps": String,
    "InstanceId": String,
    "Region": String,
    "HttpPort": String,
    "LoadBalancing": Integer,
    "HttpsPort": String,
    "RsType": Integer,
    "IsAccessProduct": Integer,
    "HttpsRedirect": Integer,
    "Protocols": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
HttpToUserIp	Integer	No	Yes	Specifies whether to enable the HTTP back-to-origin feature. After the feature is enabled, the Web Application Firewall (WAF) instance can use HTTP to forward HTTPS requests to the origin. **Note** If your website does not support HTTPS access, you can enable the HTTP back-to-origin feature to allow HTTPS access through WAF. By default, port 80 is used to forward the requests to the origin.	Default value: 0. Valid values: • 0: disables the HTTP back-to-origin feature. • 1: enables the HTTP back-to-origin feature.
Domain	String	Yes	No	The domain name.	None
SourceIps	String	No	Yes	The origin IP address. You can specify multiple IP addresses. Example: `["1.1.1.1", "10.0.0.0"]`.	None
InstanceId	String	Yes	No	The ID of the WAF instance.	None
Region	String	No	Yes	The region where the WAF instance resides.	Default value: cn. Valid values: • cn: mainland China • cn-hongkong: China (Hong Kong) and regions outside China
HttpPort	String	No	Yes	The HTTP port number. Separate multiple port numbers with commas (,). Example: `[80, 8000]`.	This parameter is required if the Protocols parameter is set to HTTP. Default value: 80. You must specify one of the HttpPort and HttpsPort parameters in a request.
LoadBalancing	Integer	No	Yes	The load balancing policy for back-to-origin traffic.	Valid values: • 0: IP hash • 1: round robin

Property	Type	Required	Editable	Description	Constraint
HttpsPort	String	No	Yes	The HTTPS port number. Separate multiple HTTPS port numbers with commas (,). Example: `[443]`.	This parameter is required if the Protocols parameter is set to https. Default value: 443. You must specify one of the HttpPort and HttpsPort parameters in a request.
RsType	Integer	No	No	The origin address type of the domain name.	Valid values: • 0: The origin address is an IP address. • 1: The origin address is a domain name.
IsAccessProduct	Integer	Yes	No	Specifies whether to configure a Layer-7 proxy, such as Anti-DDoS Pro or CDN, to filter the inbound traffic before it is forwarded to WAF.	Valid values: • 0: A Layer-7 proxy is not configured. • 1: A Layer-7 proxy is configured.
HttpsRedirect	Integer	No	Yes	Specifies whether to redirect HTTP requests as HTTPS requests.	Default value: 0. Valid values: • 0: HTTP requests are not redirected as HTTPS requests. • 1: HTTP requests are redirected as HTTPS requests. You need to specify this request parameter only when the Protocols parameter is set to https. If this parameter is set to 1, HTTP requests are redirected to HTTPS port 443.
Protocols	String	Yes	No	The access protocols supported by the domain name.	Valid values: • http • https • http,https

Response parameters

Fn::GetAtt

- ProtocolType: the supported protocol type. 0 indicates HTTP. 1 indicates HTTPS. 2 indicates both HTTP and HTTPS.
- Cname: the alias assigned by WAF.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "HttpToUserIp": {
      "Type": "Number",
      "Description": "Whether to open HTTPS access request is forwarded back to the source station via the HTTP protocol, the v
alue of:\n0: off (default)\n1: Turn\nNote If your site does not support HTTPS back to the source, open source HTTP return (defa
ult back to the source port is port 80) function key, can be realized by WAF HTTPS access.",
      "AllowedValues": [
        0,
```

```
        1
      ]
    },
    "HttpPort": {
      "Type": "String",
      "Description": "HTTP protocol configuration port. When specifying a plurality of HTTP port \",\" separated. Example value
s: [80].\nConfigure the HTTP protocol, this parameter is required. The default value is 80. HttpPort HttpsPort with at least tw
o parameters need to fill a request."
    },
    "IsAccessProduct": {
      "Type": "Number",
      "Description": "The domain before WAF is configured with seven agents (eg, high defense, CDN, etc.), the value of:\n0: no
ne.\n1: expressed.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "RsType": {
      "Type": "Number",
      "Description": "Back to the source address type the domain name values:\n0: back to the source to IP.\n1: Indicates the d
omain name back to the source.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "Protocols": {
      "Type": "String",
      "Description": "The domain supports access protocols, values:\nhttp: expressed support for the HTTP protocol.\nhttps: sup
port for HTTPS protocol.\nhttp, https: supports HTTP, HTTPS protocol."
    },
    "InstanceId": {
      "Type": "String",
      "Description": "WAF instance ID.\nDescription Interface You can view your current WAF instance ID by calling DescribePayI
nfo."
    },
    "SourceIps": {
      "Type": "String",
      "Description": "Source station IP, supports a plurality of specified IP. Example values: [ \"1.1.1.1\"]."
    },
    "HttpsRedirect": {
      "Type": "Number",
      "Description": "HTTPS is turned forcefully jump the argument:\n0: off (default)\n1: Turn\nDescription required to complet
e the request parameters using only HTTPS access protocol. After opening force will show a jump HTTP request is HTTPS, a defaul
t jump to 443.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "Region": {
      "Type": "String",
      "Description": "Examples of areas where the WAF. Value:\ncn: China mainland (default)\ncn-hongkong: China HongKong and ot
her overseas",
      "AllowedValues": [
        "cn",
        "cn-hongkong"
      ]
    },
    "Domain": {
      "Type": "String",
      "Description": "Domain name."
    },
    "LoadBalancing": {
      "Type": "Number",
      "Description": "Back to the source load balancing policy values:\n0: IP Hash way.\n1: represents a polling mode.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "HttpsPort": {
      "Type": "String",
      "Description": "HTTPS protocol configuration port. When specifying a plurality HTTPS port, using the \",\" separated. Exa
```

```
      "Description": "HTTPS protocol configuration port. When specifying a plurality HTTPS port, using the \",\" separated. Exa
mple values: [443].\nConfigure the protocol is HTTPS, this parameter is required. The default value is 443. HttpPort HttpsPort
with at least two parameters need to fill a request."
    }
  },
  "Resources": {
    "DomainConfig": {
      "Type": "ALIYUN::WAF::DomainConfig",
      "Properties": {
        "HttpToUserIp": {
          "Ref": "HttpToUserIp"
        },
        "HttpPort": {
          "Ref": "HttpPort"
        },
        "IsAccessProduct": {
          "Ref": "IsAccessProduct"
        },
        "RsType": {
          "Ref": "RsType"
        },
        "Protocols": {
          "Ref": "Protocols"
        },
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "SourceIps": {
          "Ref": "SourceIps"
        },
        "HttpsRedirect": {
          "Ref": "HttpsRedirect"
        },
        "Region": {
          "Ref": "Region"
        },
        "Domain": {
          "Ref": "Domain"
        },
        "LoadBalancing": {
          "Ref": "LoadBalancing"
        },
        "HttpsPort": {
          "Ref": "HttpsPort"
        }
      }
    }
  },
  "Outputs": {
    "ProtocolType": {
      "Description": "agreement type:0: indicates that the HTTP protocol is supported.1: indicates that the HTTPS protocol is s
upported.2: indicates that both HTTP and HTTPS protocols are supported.",
      "Value": {
        "Fn::GetAtt": [
          "DomainConfig",
          "ProtocolType"
        ]
      }
    },
    "Cname": {
      "Description": "CNAME assigned by WAF instance.",
      "Value": {
        "Fn::GetAtt": [
          "DomainConfig",
          "Cname"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
```

```
Parameters:
  HttpToUserIp:
    Type: Number
    Description: >-
      Whether to open HTTPS access request is forwarded back to the source
      station via the HTTP protocol, the value of:
      0: off (default)
      1: Turn
      Note If your site does not support HTTPS back to the source, open source
      HTTP return (default back to the source port is port 80) function key, can
      be realized by WAF HTTPS access.
    AllowedValues:
      - 0
      - 1
  HttpPort:
    Type: String
    Description: >-
      HTTP protocol configuration port. When specifying a plurality of HTTP port
      "," separated. Example values: [80].
      Configure the HTTP protocol, this parameter is required. The default value
      is 80. HttpPort HttpsPort with at least two parameters need to fill a
      request.
  IsAccessProduct:
    Type: Number
    Description: >-
      The domain before WAF is configured with seven agents (eg, high defense,
      CDN, etc.), the value of:
      0: none.
      1: expressed.
    AllowedValues:
      - 0
      - 1
  RsType:
    Type: Number
    Description: |-
      Back to the source address type the domain name values:
      0: back to the source to IP.
      1: Indicates the domain name back to the source.
    AllowedValues:
      - 0
      - 1
  Protocols:
    Type: String
    Description: |-
      The domain supports access protocols, values:
      http: expressed support for the HTTP protocol.
      https: support for HTTPS protocol.
      http, https: supports HTTP, HTTPS protocol.
  InstanceId:
    Type: String
    Description: >-
      WAF instance ID.
      Description Interface You can view your current WAF instance ID by calling
      DescribePayInfo.
  SourceIps:
    Type: String
    Description: >-
      Source station IP, supports a plurality of specified IP. Example values: [
      "1.1.1.1"].
  HttpsRedirect:
    Type: Number
    Description: >-
      HTTPS is turned forcefully jump the argument:
      0: off (default)
      1: Turn
      Description required to complete the request parameters using only HTTPS
      access protocol. After opening force will show a jump HTTP request is
      HTTPS, a default jump to 443.
    AllowedValues:
      - 0
      - 1
  Region:
    Type: String
    Description: |-
```

```
      Examples of areas where the WAF. Value:
      cn: China mainland (default)
      cn-hongkong: China HongKong and other overseas
    AllowedValues:
      - cn
      - cn-hongkong
  Domain:
    Type: String
    Description: Domain name.
  LoadBalancing:
    Type: Number
    Description: |-
      Back to the source load balancing policy values:
      0: IP Hash way.
      1: represents a polling mode.
    AllowedValues:
      - 0
      - 1
  HttpsPort:
    Type: String
    Description: >-
      HTTPS protocol configuration port. When specifying a plurality HTTPS port,
      using the "," separated. Example values: [443].
      Configure the protocol is HTTPS, this parameter is required. The default
      value is 443. HttpPort HttpsPort with at least two parameters need to fill
      a request.
Resources:
  DomainConfig:
    Type: 'ALIYUN::WAF::DomainConfig'
    Properties:
      HttpToUserIp:
        Ref: HttpToUserIp
      HttpPort:
        Ref: HttpPort
      IsAccessProduct:
        Ref: IsAccessProduct
      RsType:
        Ref: RsType
      Protocols:
        Ref: Protocols
      InstanceId:
        Ref: InstanceId
      SourceIps:
        Ref: SourceIps
      HttpsRedirect:
        Ref: HttpsRedirect
      Region:
        Ref: Region
      Domain:
        Ref: Domain
      LoadBalancing:
        Ref: LoadBalancing
      HttpsPort:
        Ref: HttpsPort
Outputs:
  ProtocolType:
    Description: >-
      agreement type:0: indicates that the HTTP protocol is supported.1:
      indicates that the HTTPS protocol is supported.2: indicates that both HTTP
      and HTTPS protocols are supported.
    Value:
      'Fn::GetAtt':
        - DomainConfig
        - ProtocolType
  Cname:
    Description: CNAME assigned by WAF instance.
    Value:
      'Fn::GetAtt':
        - DomainConfig
        - Cname
```

69.4. ALIYUN::WAF::Instance

ALIYUN::WAF::Instance is used to create a Web Application Firewall (WAF) instance.

> **Note** Only the Singapore (Singapore) region is supported. The region ID is ap-southeast-1.

Syntax

```
{
  "Type": "ALIYUN::WAF::Instance",
  "Properties": {
    "BigScreen": String,
    "PrefessionalService": String,
    "ExtDomainPackage": String,
    "LogTime": String,
    "RenewalStatus": String,
    "RenewPeriod": String,
    "Period": String,
    "ExclusiveIpPackage": String,
    "LogStorage": String,
    "SubscriptionType": String,
    "ExtBandwidth": String,
    "WafLog": String,
    "PackageCode": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
BigScreen	String	Yes	No	Specifies whether to enable the data visualization service.	Valid values: • 0: The data visualization service is disabled. • 1: The single-dashboard data visualization service is enabled. • all: The multi-dashboard data visualization service is enabled.
PrefessionalService	String	Yes	No	Specifies whether to enable the expert service. **Note** The expert service allows you to consult experts about product configuration, policy optimization, and routine monitoring over DingTalk groups.	Valid values: • false: The expert service is disabled. • true: The expert service is enabled.
ExtDomainPackage	String	Yes	No	The number of extra domain packages.	Valid values: 0 to 1000.

Property	Type	Required	Editable	Description	Constraint
LogTime	String	Yes	No	The log storage duration.	Valid values: • 180 • 360 Unit: days.
RenewalStatus	String	No	No	The auto-renewal status of the instance.	Default value: ManualRenewal. Valid values: • AutoRenewal • ManualRenewal
RenewPeriod	String	No	No	The auto-renewal period for the created instance.	This parameter is required when the RenewalStatus parameter is set to AutoRenewal. Unit: months.
Period	String	No	No	The subscription period.	Unit: months.
ExclusiveIpPackage	String	Yes	No	The number of exclusive IP address packages.	Valid values: 0 to 100.
LogStorage	String	Yes	No	The log storage capacity.	Valid values: • 3 • 5 • 10 • 20 • 50 • 100 Unit: TiB.
SubscriptionType	String	Yes	No	The billing method.	Set the value to Subscription.
ExtBandwidth	String	Yes	No	The extra traffic.	Valid values: 0 to 20000. Unit: Mbit/s.
WafLog	String	Yes	No	Specifies whether to enable Log Service.	Valid values: • true • false
PackageCode	String	Yes	No	The subscription WAF.	Valid values: • version_pro_asia: WAF Pro • version_business_asia: WAF Business • version_enterprise_asia: WAF Enterprise • version_exclusive_cluster_asia: WAF Exclusive

Response parameters

Fn::GetAtt

- SubscriptionType: the billing method of the instance.
- InstanceId: the ID of the WAF instance.

- EndDate: the expiration time of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PrefessionalService": {
      "Type": "String",
      "Description": ""
    },
    "BigScreen": {
      "Type": "String",
      "Description": ""
    },
    "ExtDomainPackage": {
      "Type": "String",
      "Description": ""
    },
    "LogTime": {
      "Type": "String",
      "Description": ""
    },
    "RenewalStatus": {
      "Type": "String",
      "Description": ""
    },
    "RenewPeriod": {
      "Type": "String",
      "Description": ""
    },
    "Period": {
      "Type": "String",
      "Description": ""
    },
    "ExclusiveIpPackage": {
      "Type": "String",
      "Description": ""
    },
    "LogStorage": {
      "Type": "String",
      "Description": ""
    },
    "SubscriptionType": {
      "Type": "String",
      "Description": "Subscription type of the instance"
    },
    "ExtBandwidth": {
      "Type": "String",
      "Description": ""
    },
    "WafLog": {
      "Type": "String",
      "Description": ""
    },
    "PackageCode": {
      "Type": "String",
      "Description": ""
    }
  },
  "Resources": {
    "WAFInstance": {
      "Type": "ALIYUN::WAF::Instance",
      "Properties": {
        "PrefessionalService": {
          "Ref": "PrefessionalService"
        },
        "BigScreen": {
          "Ref": "BigScreen"
        },
        "ExtDomainPackage": {
          "Ref": "ExtDomainPackage"
        }
```

```
        },
        "LogTime": {
          "Ref": "LogTime"
        },
        "RenewalStatus": {
          "Ref": "RenewalStatus"
        },
        "RenewPeriod": {
          "Ref": "RenewPeriod"
        },
        "Period": {
          "Ref": "Period"
        },
        "ExclusiveIpPackage": {
          "Ref": "ExclusiveIpPackage"
        },
        "LogStorage": {
          "Ref": "LogStorage"
        },
        "SubscriptionType": {
          "Ref": "SubscriptionType"
        },
        "ExtBandwidth": {
          "Ref": "ExtBandwidth"
        },
        "WafLog": {
          "Ref": "WafLog"
        },
        "PackageCode": {
          "Ref": "PackageCode"
        }
      }
    }
  },
  "Outputs": {
    "SubscriptionType": {
      "Description": "Subscription type of the instance",
      "Value": {
        "Fn::GetAtt": [
          "WAFInstance",
          "SubscriptionType"
        ]
      }
    },
    "Trial": {
      "Description": "Trial version",
      "Value": {
        "Fn::GetAtt": [
          "WAFInstance",
          "Trial"
        ]
      }
    },
    "InstanceId": {
      "Description": "Instance ID",
      "Value": {
        "Fn::GetAtt": [
          "WAFInstance",
          "InstanceId"
        ]
      }
    },
    "InDebt": {
      "Description": "Instance is overdue",
      "Value": {
        "Fn::GetAtt": [
          "WAFInstance",
          "InDebt"
        ]
      }
    },
    "RemainDay": {
      "Description": "Number of available days for WAF Trial version",
      "Value": {
        "Fn::GetAtt": [
```

```
          "WAFInstance",
          "RemainDay"
        ]
      }
    },
    "EndDate": {
      "Description": "Due date of the instance",
      "Value": {
        "Fn::GetAtt": [
          "WAFInstance",
          "EndDate"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  PrefessionalService:
    Type: String
    Description: ''
  BigScreen:
    Type: String
    Description: ''
  ExtDomainPackage:
    Type: String
    Description: ''
  LogTime:
    Type: String
    Description: ''
  RenewalStatus:
    Type: String
    Description: ''
  RenewPeriod:
    Type: String
    Description: ''
  Period:
    Type: String
    Description: ''
  ExclusiveIpPackage:
    Type: String
    Description: ''
  LogStorage:
    Type: String
    Description: ''
  SubscriptionType:
    Type: String
    Description: Subscription type of the instance
  ExtBandwidth:
    Type: String
    Description: ''
  WafLog:
    Type: String
    Description: ''
  PackageCode:
    Type: String
    Description: ''
Resources:
  WAFInstance:
    Type: 'ALIYUN::WAF::Instance'
    Properties:
      PrefessionalService:
        Ref: PrefessionalService
      BigScreen:
        Ref: BigScreen
      ExtDomainPackage:
        Ref: ExtDomainPackage
      LogTime:
        Ref: LogTime
      RenewalStatus:
```

```
        Ref: RenewalStatus
      RenewPeriod:
        Ref: RenewPeriod
      Period:
        Ref: Period
      ExclusiveIpPackage:
        Ref: ExclusiveIpPackage
      LogStorage:
        Ref: LogStorage
      SubscriptionType:
        Ref: SubscriptionType
      ExtBandwidth:
        Ref: ExtBandwidth
      WafLog:
        Ref: WafLog
      PackageCode:
        Ref: PackageCode
Outputs:
  SubscriptionType:
    Description: Subscription type of the instance
    Value:
      'Fn::GetAtt':
        - WAFInstance
        - SubscriptionType
  Trial:
    Description: Trial version
    Value:
      'Fn::GetAtt':
        - WAFInstance
        - Trial
  InstanceId:
    Description: Instance ID
    Value:
      'Fn::GetAtt':
        - WAFInstance
        - InstanceId
  InDebt:
    Description: Instance is overdue
    Value:
      'Fn::GetAtt':
        - WAFInstance
        - InDebt
  RemainDay:
    Description: Number of available days for WAF Trial version
    Value:
      'Fn::GetAtt':
        - WAFInstance
        - RemainDay
  EndDate:
    Description: Due date of the instance
    Value:
      'Fn::GetAtt':
        - WAFInstance
        - EndDate
```

69.5. ALIYUN::WAF::LogServiceEnable

ALIYUN::WAF::LogServiceEnable is used to enable the log collection feature for a specific domain name.

Syntax

```
{
  "Type": "ALIYUN::WAF::LogServiceEnable",
  "Properties": {
    "InstanceId": String,
    "Domain": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	No	The ID of the Web Application Firewall (WAF) instance.	You can call the DescribeInstanceInfo operation to query the ID of a WAF instance.
Domain	String	Yes	No	The domain name that is added to WAF.	None

Response parameters

Fn::GetAtt

- InstanceId: the ID of the WAF instance.
- Domain: the domain name that is added to WAF.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "The ID of the WAF instance.\nYou can call the DescribeInstanceInfo operation to query the ID of the WAF i
nstance."
    },
    "Domain": {
      "Type": "String",
      "Description": "The domain name that is added to WAF."
    }
  },
  "Resources": {
    "LogServiceEnable": {
      "Type": "ALIYUN::WAF::LogServiceEnable",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "Domain": {
          "Ref": "Domain"
        }
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Description": "The ID of the WAF instance.\nYou can call the DescribeInstanceInfo operation to query the ID of the WAF i
nstance.",
      "Value": {
        "Fn::GetAtt": [
          "LogServiceEnable",
          "InstanceId"
        ]
      }
    },
    "Domain": {
      "Description": "The domain name that is added to WAF.",
      "Value": {
        "Fn::GetAtt": [
          "LogServiceEnable",
          "Domain"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Parameters:
  Domain:
    Description: The domain name that is added to WAF.
    Type: String
  InstanceId:
    Description: 'The ID of the WAF instance.
      You can call the DescribeInstanceInfo operation to query the ID of the WAF instance.'
    Type: String
Resources:
  LogServiceEnable:
    Properties:
      Domain:
        Ref: Domain
      InstanceId:
        Ref: InstanceId
    Type: ALIYUN::WAF::LogServiceEnable
Outputs:
  Domain:
    Description: The domain name that is added to WAF.
    Value:
      Fn::GetAtt:
      - LogServiceEnable
      - Domain
  InstanceId:
    Description: 'The ID of the WAF instance.
      You can call the DescribeInstanceInfo operation to query the ID of the WAF instance.'
    Value:
      Fn::GetAtt:
      - LogServiceEnable
      - InstanceId
```

69.6. ALIYUN::WAF::WafSwitch

ALIYUN::WAF::WafSwitch is used to enable or disable Web attack protection.

Syntax

```
{
  "Type": "ALIYUN::WAF::WafSwitch",
  "Properties": {
    "InstanceId": String,
    "Domain": String,
    "ServiceOn": Integer,
    "Region": String
  }
}
```

Properties

Parameter	Type	Required	Editable	Description	Constraint
InstanceId	String	Yes	Not supported	Web Application Firewall instance ID.	None
Domain	String	Yes	Not supported	The domain name.	None
ServiceOn	Integer	Yes	Yes	Web attack protection switch	Valid values: • 0: Disable the rule. • 1: Enable the rule.
Region	String	Not supported	Supported	The region of the Web Application Firewall instance.	Valid values: • cn: Mainland China (default) • cn-hongkong: China (Hong Kong) and other regions outside China

Return value

Fn::GetAtt

None

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "WafSwitch": {
      "Type": "ALIYUN::WAF::WafSwitch",
      "Properties": {
        "InstanceId": {
          "Ref": "InstanceId"
        },
        "Domain": {
          "Ref": "Domain"
        },
        "ServiceOn": {
          "Ref": "ServiceOn"
        },
        "Region": {
          "Ref": "Region"
        }
      }
    }
  },
  "Parameters": {
    "InstanceId": {
      "Type": "String",
      "Description": "WAF instance ID. Description Interface You can view your current WAF instance ID by calling DescribePayIn
fo."
    },
    "Domain": {
      "Type": "String",
      "Description": "Domain name."
    },
    "ServiceOn": {
      "Type": "Number",
      "Description": "Web attack protection switch, the value of: 0: closed. 1: indicate on.",
      "AllowedValues": [
        0,
        1
      ]
    },
    "Region": {
      "Type": "String",
       "Description": "The region where the WAF instance is located.
       Default value: cn.Valid
       values:
       cn: mainland China
       cn-hongkong: Hong Kong (China) and outside China",
      "AllowedValues": [
        "cn",
        "cn-hongkong"
      ]
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
  WafSwitch:
    Type: ALIYUN::WAF::WafSwitch
    Properties:
      InstanceId:
        Ref: InstanceId
      Domain:
        Ref: Domain
      ServiceOn:
        Ref: ServiceOn
      Region:
        Ref: Region
Parameters:
  InstanceId:
    Type: String
    Description: WAF instance ID. Description Interface You can view your current
      WAF instance ID by calling DescribePayInfo.
  Domain:
    Type: String
    Description: Domain name.
  ServiceOn:
    Type: Number
    Description: 'Web attack protection switch, the value of: 0: closed. 1: indicate
      on.'
    AllowedValues:
    -0
    - 1
  Region:
    Type: String
    Description: 'The region where the WAF instance is located.
       Default value: cn.Valid
       values:
       cn: mainland China
       cn-hongkong: Hong Kong (China) and outside China'
    AllowedValues:
    -cn
    -cn-hongkong
```

70.Transform

70.1. Aliyun::Serverless::Api

Aliyun::Serverless::Api is used to create an API group and an API, and publish the API to a specified environment in API Gateway.

Syntax

```
{
  "Type": "Aliyun::Serverless::Api",
  "Properties": {
    "Name": String,
    "StageName": String,
    "DefinitionUri": String,
    "DefinitionBody": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Name	String	No	Yes	The name of the API.	None
StageName	String	Yes	Yes	The environment in which to publish the API.	Valid values: • TEST: test environment • PRE: staging environment • RELEASE: production environment
DefinitionBody	Map	No	Yes	The request body of the API.	You must specify one of the `DefinitionUri` and `DefinitionBody` parameters. For more information, visit api-gateway.
DefinitionUri	String	No	Yes	The URL of the API request.	You must specify one of the `DefinitionUri` and `DefinitionBody` parameters.

Response parameters

Fn::GetAtt

- ApiId: the ID of the created API.
- SubDomain: the second-level domain that the system assigns to the API group. The domain is used to test the API call.
- GroupId: the ID of the API group. The ID is a globally unique identifier (GUID) generated by the system.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Resources": {
    "MyService": {
      "Type": "Aliyun::Serverless::Service",
      "Properties": {},
      "MyFunction": {
        "Type": "Aliyun::Serverless::Function",
        "Properties": {
```

```
          "Handler": "index.handler",
          "Runtime": "nodejs8",
          "CodeUri": "oss://transform-fvt/nodejs8.zip",
          "Timeout": 60
        }
      }
    },
    "MyApi": {
      "Type": "Aliyun::Serverless::Api",
      "Properties": {
        "StageName": "RELEASE",
        "DefinitionBody": {
          "/": {
            "get": {
              "x-aliyun-apigateway-api-name": "MyApiName",
              "x-aliyun-apigateway-fc": {
                "arn": "acs:fc:::services/${MyService.Arn}/functions/${MyFunction.Arn}/",
                "timeout": 10000
              },
              "x-aliyun-apigateway-request-config": {
                "requestMode": "MAPPING",
                "requestProtocol": "http"
              },
              "x-aliyun-apigateway-request-parameters": [
                {
                  "apiParameterName": "token",
                  "location": "Query",
                  "parameterType": "String",
                  "required": "REQUIRED"
                },
                {
                  "apiParameterName": "token2",
                  "location": "Query",
                  "parameterType": "String",
                  "required": "REQUIRED"
                }
              ]
            }
          }
        }
      }
    }
  },
  "Outputs": {
    "GroupId": {
      "Value": {
        "Fn::GetAtt": [
          "MyApi",
          "GroupId"
        ]
      }
    },
    "SubDomain": {
      "Value": {
        "Fn::GetAtt": [
          "MyApi",
          "SubDomain"
        ]
      }
    },
    "ApiId": {
      "Value": {
        "Fn::GetAtt": [
          "MyApiName",
          "ApiId"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Resources:
  MyService:
    Type: 'Aliyun::Serverless::Service'
    Properties: {}
    MyFunction:
      Type: 'Aliyun::Serverless::Function'
      Properties:
        Handler: index.handler
        Runtime: nodejs8
        CodeUri: 'oss://transform-fvt/nodejs8.zip'
        Timeout: 60
  MyApi:
    Type: 'Aliyun::Serverless::Api'
    Properties:
      StageName: RELEASE
      DefinitionBody:
        /:
          get:
            x-aliyun-apigateway-api-name: MyApiName
            x-aliyun-apigateway-fc:
              arn: 'acs:fc:::services/${MyService.Arn}/functions/${MyFunction.Arn}/'
              timeout: 10000
            x-aliyun-apigateway-request-config:
              requestMode: MAPPING
              requestProtocol: http
            x-aliyun-apigateway-request-parameters:
              - apiParameterName: token
                location: Query
                parameterType: String
                required: REQUIRED
              - apiParameterName: token2
                location: Query
                parameterType: String
                required: REQUIRED
Outputs:
  GroupId:
    Value:
      'Fn::GetAtt':
        - MyApi
        - GroupId
  SubDomain:
    Value:
      'Fn::GetAtt':
        - MyApi
        - SubDomain
  ApiId:
    Value:
      'Fn::GetAtt':
        - MyApiName
        - ApiId
```

70.2. Aliyun::Serverless::CustomDomain

Aliyun::Serverless::CustomDomain is used to create a custom domain name.

Syntax

```
{
  "Type": "ALIYUN::Serverless::CustomDomain",
  "Properties": {
    "Protocol": String,
    "RouteConfig": Map,
    "CertConfig": Map,
    "DomainName": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Protocol	String	Yes	Yes	The protocol type.	Valid values: • HTTP • HTTPS
RouteConfig	Map	Yes	Yes	The configurations of the route table.	For more information, visit RouteConfig object.
CertConfig	Map	No	Yes	The information of the certificate.	For more information, visit CertConfig properties.
DomainName	String	No	No	The domain name.	If you do not specify the `DomainName` parameter, you must specify the logical resource ID as the domain name.

CertConfig syntax

```
"CertConfig": {
  "CertName": String,
  "PrivateKey": String,
  "Certificate": String
}
```

CertConfig properties

Property	Type	Required	Editable	Description	Constraint
CertName	String	Yes	Yes	The custom name of the certificate.	None
PrivateKey	String	Yes	Yes	The private key.	Specify this parameter in one line by using newline escape characters (`\n`).
Certificate	String	Yes	Yes	The information of the certificate.	Specify this parameter in one line by using newline escape characters (`\n`).

Response parameters

Fn::GetAtt

- DomainName: the custom domain name.
- Domain: the protocol and the custom domain name.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Parameters": {
    "DomainName": {
      "Type": "String"
    }
  },
  "Resources": {
    "CustomDomain": {
      "Type": "Aliyun::Serverless::CustomDomain",
      "Properties": {
        "DomainName": {
          "Ref": "DomainName"
        },
        "Protocol": "HTTP",
        "RouteConfig": {
          "Routes": {
            "/*": {
              "ServiceName": "MyService",
              "FunctionName": "MyServiceMyFunction"
            }
          }
        }
      }
    }
  },
  "Outputs": {
    "DomainName": {
      "Value": {
        "Fn::GetAtt": [
          "CustomDomain",
          "DomainName"
        ]
      }
    },
    "Domain": {
      "Value": {
        "Fn::GetAtt": [
          "CustomDomain",
          "Domain"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Parameters:
  DomainName:
    Type: String
Resources:
  CustomDomain:
    Type: 'Aliyun::Serverless::CustomDomain'
    Properties:
      DomainName:
        Ref: DomainName
      Protocol: HTTP
      RouteConfig:
        Routes:
          /*:
            ServiceName: MyService
            FunctionName: MyServiceMyFunction
Outputs:
  DomainName:
    Value:
      'Fn::GetAtt':
        - CustomDomain
        - DomainName
  Domain:
    Value:
      'Fn::GetAtt':
        - CustomDomain
        - Domain
```

70.3. Aliyun::Serverless::Function

Aliyun::Serverless::Function is used to create a function in Function Compute.

Syntax

```
{
  "Type": "Aliyun::Serverless::Function",
  "Properties": {
    "Handler": String,
    "Runtime": String,
    "CodeUri": String,
    "Initializer": String,
    "Description": String,
    "MemorySize": Integer,
    "Timeout": Integer,
    "InitializationTimeout": Integer,
    "EnvironmentVariables": Map,
    "InstanceConcurrency": Integer,
  },
   "Events": Map
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Handler	String	Yes	Yes	The handler that is used by Function Compute to invoke the function.	None

Property	Type	Required	Editable	Description	Constraint
Runtime	String	Yes	Yes	The runtime environment of the function.	Valid values: • nodejs6 • nodejs8 • nodejs10 • nodejs12 • python2.7 • python3 • java8 • php7.2 • dotnetcore2.1
CodeUri	String	Yes	Yes	The storage location of the code.	The code can be stored in an Object Storage Service (OSS) bucket or the directory of the project.
Initializer	String	No	Yes	The handler that is used by Function Compute to initialize the function.	The format is determined by the programming language.
InitializationTimeout	Integer	No	Yes	The timeout period for Function Compute to initialize the function.	Valid values: 1 to 300. Unit: seconds. Default value: 3.
Description	String	No	Yes	The description of the function.	None
MemorySize	Integer	No	Yes	The memory that is required to execute the function.	Valid values: 128 to 1536. Note The value must be a multiple of 64. Unit: MB. Default value: 128.
InstanceConcurrency	Integer	No	Yes	The number of requests that the function can process at a time.	Valid values: 1 to 100. Note Python functions do not support this parameter.
EnvironmentVariables	Map	No	Yes	The environment variables configured for the function.	None
Timeout	Integer	No	Yes	The timeout period for Function Compute to invoke the function.	Valid values: 1 to 300. Unit: seconds. Default value: 3.
Events	Map	No	Yes	The event that triggers the function.	For more information, visit Event source types.

Response parameters

Fn::GetAtt

- FunctionId: the unique ID generated by the system for each function.
- ServiceName: the name of the service to which the function belongs.
- ARN: the Alibaba Cloud Resource Name (ARN) of the function.
- FunctionName: the name of the function.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Parameters": {
    "CodeUri": {
      "Type": "String"
    }
  },
  "Resources": {
    "MyService": {
      "Type": "Aliyun::Serverless::Service",
      "Properties": {},
      "MyFunction": {
        "Type": "Aliyun::Serverless::Function",
        "Properties": {
          "Handler": "index.handler",
          "CodeUri": {
            "Ref": "CodeUri"
          },
          "Description": "Hello world with python2.7!",
          "Runtime": "python2.7",
          "Timeout": 300
        }
      }
    }
  },
  "Outputs": {
    "MyServiceId": {
      "Value": {
        "Fn::GetAtt": [
          "MyService",
          "ServiceId"
        ]
      }
    },
    "ServiceName": {
      "Value": {
        "Fn::GetAtt": [
          "MyService",
          "ServiceName"
        ]
      }
    },
    "FunctionName": {
      "Value": {
        "Fn::GetAtt": [
          "MyServiceMyFunction",
          "FunctionName"
        ]
      }
    },
    "FunctionId": {
      "Value": {
        "Fn::GetAtt": [
          "MyServiceMyFunction",
          "FunctionId"
        ]
      }
    },
    "ARN": {
      "Value": {
        "Fn::GetAtt": [
          "MyServiceMyFunction",
          "ARN"
        ]
```

```
        }
      }
    },
    "FunctionServiceName": {
      "Value": {
        "Fn::GetAtt": [
          "MyServiceMyFunction",
          "ServiceName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Parameters:
  CodeUri:
    Type: String
Resources:
  MyService:
    Type: 'Aliyun::Serverless::Service'
    Properties: {}
    MyFunction:
      Type: 'Aliyun::Serverless::Function'
      Properties:
        Handler: index.handler
        CodeUri:
          Ref: CodeUri
        Description: Hello world with python2.7!
        Runtime: python2.7
        Timeout: 300
Outputs:
  MyServiceId:
    Value:
      'Fn::GetAtt':
        - MyService
        - ServiceId
  ServiceName:
    Value:
      'Fn::GetAtt':
        - MyService
        - ServiceName
  FunctionName:
    Value:
      'Fn::GetAtt':
        - MyServiceMyFunction
        - FunctionName
  FunctionId:
    Value:
      'Fn::GetAtt':
        - MyServiceMyFunction
        - FunctionId
  ARN:
    Value:
      'Fn::GetAtt':
        - MyServiceMyFunction
        - ARN
  FunctionServiceName:
    Value:
      'Fn::GetAtt':
        - MyServiceMyFunction
        - ServiceName
```

70.4. Aliyun::Serverless::Log

Aliyun::Serverless::Log is used to create a Log Service project.

Syntax

```
{
  "Type": "Aliyun::Serverless::Log",
  "Properties": {
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Description	String	Yes	No	The description of the Log Service project.	The description must be 0 to 64 characters in length and cannot contain the following special characters: `' < > " \`

Response parameters

Fn::GetAtt

Name: the name of the Log Service project.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Resources": {
    "MySlsProject": {
      "Type": "Aliyun::Serverless::Log",
      "Properties": {
        "Description": "Test log"
      }
    }
  },
  "Outputs": {
    "Name": {
      "Value": {
        "Fn::GetAtt": [
          "MySlsProject",
          "Name"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Resources:
  MySlsProject:
    Type: 'Aliyun::Serverless::Log'
    Properties:
      Description: Test log
Outputs:
  Name:
    Value:
      'Fn::GetAtt':
        - MySlsProject
        - Name
```

70.5. Aliyun::Serverless::Log::Logstore

Aliyun::Serverless::Log::Logstore is used to create a Logstore in a Log Service project.

Syntax

```
{
  "Type": "Aliyun::Serverless::Log::Logstore",
  "Properties": {
    "TTL": Integer,
    "ShardCount": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
TTL	Number	No	Yes	The time to live (TTL) of log data.	Valid values: 1 to 3600. Unit: days. Default value: 30.
ShardCount	Number	No	Yes	The number of the shards.	Valid values: 1 to 100.

Response parameters

Fn::GetAtt

Name: the name of the project.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Parameters": {
    "TTL": {
      "Type": "Number",
      "Default": 10
    },
    "ShardCount": {
      "Type": "Number",
      "Default": 1
    }
  },
  "Resources": {
    "SlsProject": {
      "Type": "Aliyun::Serverless::Log",
      "Properties": {
        "Description": "just test log"
      },
      "SlsLogstore": {
        "Type": "Aliyun::Serverless::Log::Logstore",
        "Properties": {
          "TTL": {
            "Ref": "TTL"
          },
          "ShardCount": {
            "Ref": "ShardCount"
          }
        }
      }
    }
  },
  "Outputs": {
    "LogstoreName": {
      "Value": {
        "Fn::GetAtt": [
          "SlsProjectSlsLogstore",
          "LogstoreName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Parameters:
  TTL:
    Type: Number
    Default: 10
  ShardCount:
    Type: Number
    Default: 1
Resources:
  SlsProject:
    Type: 'Aliyun::Serverless::Log'
    Properties:
      Description: just test log
    SlsLogstore:
      Type: 'Aliyun::Serverless::Log::Logstore'
      Properties:
        TTL:
          Ref: TTL
        ShardCount:
          Ref: ShardCount
Outputs:
  LogstoreName:
    Value:
      'Fn::GetAtt':
        - SlsProjectSlsLogstore
        - LogstoreName
```

70.6. Aliyun::Serverless::MNSTopic

Aliyun::Serverless::MNSTopic is used to create a Message Service (MNS) topic.

Syntax

```
{
  "Type": "Aliyun::Serverless::MNSTopic",
  "Properties": {
    "LoggingEnabled": Boolean,
    "MaximumMessageSize": Integer
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
MaximumMessageSize	Integer	No	Yes	The maximum size of a message that is to be sent to the topic.	Valid values: 1024 (1 KB) to 65536 (64 KB). Unit: bytes. Default value: 65536 (64 KB).
LoggingEnabled	Boolean	No	Yes	Specifies whether to enable the log management feature.	Default value: false. Valid values: • true: enables the log management feature. • false: disables the log management feature.

Response parameters

Fn::GetAtt

- TopicUrl: the URL of the topic.
- TopicName: the name of the topic.
- ARN.WithSlash: the Alibaba Cloud Resource Name (ARN) of the topic.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Resources": {
    "MnsTopic": {
      "Type": "Aliyun::Serverless::MNSTopic",
      "Properties": {
        "MaximumMessageSize": 2048,
        "LoggingEnabled": false
      }
    }
  },
  "Outputs": {
    "TopicUrl": {
      "Value": {
        "Fn::GetAtt": [
          "MnsTopic",
          "TopicUrl"
        ]
      }
    },
    "TopicName": {
      "Value": {
        "Fn::GetAtt": [
          "MnsTopic",
          "TopicName"
        ]
      }
    },
    "ARN.WithSlash": {
      "Value": {
        "Fn::GetAtt": [
          "MnsTopic",
          "ARN.WithSlash"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Resources:
  MnsTopic:
    Type: 'Aliyun::Serverless::MNSTopic'
    Properties:
      MaximumMessageSize: 2048
      LoggingEnabled: false
Outputs:
  TopicUrl:
    Value:
      'Fn::GetAtt':
        - MnsTopic
        - TopicUrl
  TopicName:
    Value:
      'Fn::GetAtt':
        - MnsTopic
        - TopicName
  ARN.WithSlash:
    Value:
      'Fn::GetAtt':
        - MnsTopic
        - ARN.WithSlash
```

70.7. Aliyun::Serverless::Service

Aliyun::Serverless::Service is used to create a service in Function Compute (FC).

Syntax

```
{
  "Type": "Aliyun::Serverless::Service",
  "Properties": {
    "Role": String,
    "Policies": List,
    "Description": String,
    "InternetAccess": Boolean,
    "VpcConfig": Map,
    "LogConfig": Map,
    "NasConfig": Map
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
Role	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the RAM role that is used to grant required permissions to FC.	None

Property	Type	Required	Editable	Description	Constraint
Policies	List	No	Yes	The list of one or more policies that are attached to the default RAM user corresponding to FC.	Example: `[ "AliyunOSSFullAccess", { "Version": "1", "Statement": [ { "Effect": "Allow", "Action": [ "oss:Get*", "oss:List*" ], "Resource": "*" } ] } ]` If you specify the Role parameter, the Policies parameter does not take effect and the default RAM user corresponding to FC is not created. You can set the Policies parameter to a system policy name or a policy document. If you set the Policies parameter to a system policy name, the system creates a default RAM user corresponding to FC and attaches the policy to the default RAM user. If you set the Policies parameter to a policy document, the system creates a policy and a default RAM user corresponding to FC, and then attaches the created policy to the default RAM user.
Description	String	No	Yes	The description of the service.	None
InternetAccess	Boolean	No	Yes	Specifies whether to allow functions to access the Internet.	Default value: true. Valid values: • true • false

Property	Type	Required	Editable	Description	Constraint
VpcConfig	Map	No	Yes	The VPC configurations. This parameter allows functions to access the specified VPC.	For more information, see VpcConfig properties.
LogConfig	Map	No	Yes	The logging configurations. This parameter specifies a Logstore to store function execution logs.	For more information, see LogConfig properties.
NasConfig	Map	No	Yes	The Apsara File Storage NAS (NAS) file system configurations. This parameter allows functions of the specified service to access the NAS file system.	For more information, see NasConfig properties.

VpcConfig syntax

```
"VpcConfig": {
  "SecurityGroupId": String,
  "VSwitchIds": List,
  "VpcId": String
}
```

VpcConfig properties

Property	Type	Required	Editable	Description	Constraint
SecurityGroupId	String	Yes	Yes	The ID of the security group.	None
VSwitchIds	List	Yes	Yes	A list of one or more vSwitch IDs. Example: [vSwitchId, ...].	This list must include at least one vSwitch ID.
VpcId	String	Yes	Yes	The ID of the VPC.	None

LogConfig syntax

```
"LogConfig": {
  "Project": String,
  "Logstore": String
}
```

LogConfig properties

Property	Type	Required	Editable	Description	Constraint
Project	String	No	Yes	The name of the project in LogHub.	None
Logstore	String	No	Yes	The name of the Logstore in LogHub.	None

NasConfig syntax

```
"NasConfig": {
  "MountPoints": List,
  "UserId": Integer,
  "GroupId": Integer
}
```

NasConfig properties

Property	Type	Required	Editable	Description	Constraint
MountPoints	List	Yes	Yes	The list of mount points.	For more information, see MountPoints properties.
UserId	Integer	Yes	Yes	The ID of the user.	Valid values: -1 to 65534.
GroupId	Integer	Yes	Yes	The ID of the application group.	Valid values: -1 to 65534.

MountPoints syntax

```
"MountPoints": [
  {
    "ServerAddr": String,
    "MountDir": String
  }
]
```

MountPoints properties

Property	Type	Required	Editable	Description	Constraint
ServerAddr	String	Yes	Yes	The remote directory in the NAS file system.	None
MountDir	String	Yes	Yes	The directory in the local file system to mount the NAS file system.	None

Response parameters

Fn::GetAtt

- ServiceId: the unique ID generated by the system for each service.
- ServiceName: the name of the service.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Resources": {
    "MyService": {
      "Type": "Aliyun::Serverless::Service",
      "Properties": {
        "Policies": [
          "AliyunFCReadOnlyAccess",
          {
            "Version": "1",
            "Statement": [
              {
                "Effect": "Allow",
                "Action": [
                  "oss:GetObject",
                  "oss:GetObjectACL"
                ],
                "Resource": "*"
              }
            ]
          }
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Resources:
  MyService: # service name
    Type: 'Aliyun::Serverless::Service'
    Properties:
      Policies:
        - AliyunFCReadOnlyAccess # Managed Policy
        - Version: '1' # Policy Document
          Statement:
            - Effect: Allow
              Action:
                - oss:GetObject
                - oss:GetObjectACL
              Resource: '*'
```

70.8. Aliyun::Serverless::TableStore

Aliyun::Serverless::TableStore is used to create a create a Tablestore instance.

Syntax

```
{
  "Type": "Aliyun::Serverless::TableStore",
  "Properties": {
    "ClusterType": String,
    "Description": String
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint

Property	Type	Required	Editable	Description	Constraint
ClusterType	String	Yes	No	The instance type.	Valid values: • HYBRID: capacity instance • SSD: high-performance instance
Description	String	Yes	No	The description of the instance.	None

Response parameters

Fn::GetAtt

- PrivateEndpoint: the private endpoint of the instance.
- PublicEndpoint: the public endpoint of the instance.
- VpcEndpoint: the endpoint of the VPC.
- InstanceName: the name of the instance.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Parameters": {
    "ClusterType": {
      "Type": "String",
      "Default": "HYBRID"
    }
  },
  "Resources": {
    "MyInstance": {
      "Type": "Aliyun::Serverless::TableStore",
      "Properties": {
        "ClusterType": {
          "Ref": "ClusterType"
        },
        "Description": "Description for MyOtsInstance"
      }
    }
  },
  "Outputs": {
    "PrivateEndpoint": {
      "Value": {
        "Fn::GetAtt": [
          "MyInstance",
          "PrivateEndpoint"
        ]
      }
    },
    "PublicEndpoint": {
      "Value": {
        "Fn::GetAtt": [
          "MyInstance",
          "PublicEndpoint"
        ]
      }
    },
    "VpcEndpoint": {
      "Value": {
        "Fn::GetAtt": [
          "MyInstance",
          "VpcEndpoint"
        ]
      }
    },
    "InstanceName": {
      "Value": {
        "Fn::GetAtt": [
          "MyInstance",
          "InstanceName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Parameters:
  ClusterType:
    Type: String
    Default: HYBRID
Resources:
  MyInstance:
    Type: 'Aliyun::Serverless::TableStore'
    Properties:
      ClusterType:
        Ref: ClusterType
      Description: Description for MyOtsInstance
Outputs:
  PrivateEndpoint:
    Value:
      'Fn::GetAtt':
        - MyInstance
        - PrivateEndpoint
  PublicEndpoint:
    Value:
      'Fn::GetAtt':
        - MyInstance
        - PublicEndpoint
  VpcEndpoint:
    Value:
      'Fn::GetAtt':
        - MyInstance
        - VpcEndpoint
  InstanceName:
    Value:
      'Fn::GetAtt':
        - MyInstance
        - InstanceName
```

70.9. Aliyun::Serverless::TableStore::Table

Aliyun::Serverless::TableStore::Table is used to create a table based on one or more primary key columns.

Syntax

```
{
  "Type": "Aliyun::Serverless::TableStore::Table",
  "Properties": {
    "PrimaryKeyList": List
  }
}
```

Properties

Property	Type	Required	Editable	Description	Constraint
PrimaryKeyList	List	Yes	No	The list of primary key column names and types used in the table.	For more information, see PrimaryKeyList properties.

PrimaryKeyList syntax

```
"PrimaryKeyList": [
  {
    "Type": String,
    "Name": String
  }
]
```

PrimaryKeyList properties

Property	Type	Required	Editable	Description	Constraint
Type	String	Yes	No	The type of the primary key column.	Valid values: • INTEGER • STRING • BINARY
Name	String	Yes	No	The name of the primary key column.	None

Response parameters

Fn::GetAtt

TableName: the name of the table.

Examples

`JSON` format

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Transform": "Aliyun::Serverless-2018-04-03",
  "Parameters": {
    "ClusterType": {
      "Type": "String",
      "Default": "HYBRID"
    },
    "PK": {
      "Type": "Json",
      "Default": [
        {
          "Name": "count_name",
          "Type": "STRING"
        }
      ]
    }
  },
  "Resources": {
    "MyInstance": {
      "Type": "Aliyun::Serverless::TableStore",
      "Properties": {
        "ClusterType": {
          "Ref": "ClusterType"
        },
        "Description": "Description for MyOtsInstance"
      },
      "MyTable": {
        "Type": "Aliyun::Serverless::TableStore::Table",
        "Properties": {
          "PrimaryKeyList": {
            "Ref": "PK"
          }
        }
      }
    }
  },
  "Outputs": {
    "TableName": {
      "Value": {
        "Fn::GetAtt": [
          "MyInstanceMyTable",
          "TableName"
        ]
      }
    }
  }
}
```

`YAML` format

```
ROSTemplateFormatVersion: '2015-09-01'
Transform: 'Aliyun::Serverless-2018-04-03'
Parameters:
  ClusterType:
    Type: String
    Default: HYBRID
  PK:
    Type: Json
    Default:
      - Name: count_name
        Type: STRING
Resources:
  MyInstance:
    Type: 'Aliyun::Serverless::TableStore'
    Properties:
      ClusterType:
        Ref: ClusterType
      Description: Description for MyOtsInstance
    MyTable:
      Type: 'Aliyun::Serverless::TableStore::Table'
      Properties:
        PrimaryKeyList:
          Ref: PK
Outputs:
  TableName:
    Value:
      'Fn::GetAtt':
        - MyInstanceMyTable
        - TableName
```