

Alibaba Cloud Resource Orchestration Service

Resource Types

Issue: 20190422

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Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information 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.
	This warning information 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 restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus, page names, and other UI elements.	Click OK.
Courier font	It is used for commands.	Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[] or [a b]	It indicates that it is an optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>

Style	Description	Example
<code>{}</code> or <code>{a b}</code>	It indicates that it is a required value, and only one item can be selected.	<code>switch {stand slave}</code>

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1 API Gateway

1.1 ALIYUN::ApiGateway::Api

ALIYUN::ApiGateway::Api can be used to create an API.

Syntax

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

Properties

Name	Type	Required	Update allowed	Description
ServiceConfig	map	Yes	Yes	Configuration items of the API request sent by the gateway to the backend service
RequestConfig	map	Yes	Yes	Configuration items of the API request sent by the consumer to the gateway

Visibility	string	Yes	Yes	Whether the API is public. The optional values are as follows: • PUBLIC: The API is public. If this attribute is set to PUBLIC, the definition of this API 's online environment will be visible on the “Discover APIs” page on the console to all users • PRIVATE: The API is not public. If the attribute is set to PRIVATE, APIs of the private type are unavailable when the API group is available on the cloud marketplace
ResultSample	string	Yes	Yes	Sample of the reply returned by the backend service

ResultType	string	Yes	Yes	Format of the reply returned by the backend service. Currently , allowed formats are JSON, TEXT, BINARY, XML , HTML, and PASSTHROUGH. The default value is JSON
ApiName	string	Yes	Yes	API name. The name must be unique in the group. It must be a string of 4 to 50 characters , which can contain Chinese characters, English letters , digits, and underscores (_), but starts only with an English letter or a Chinese character
GroupId	string	Yes	No	ID of the specified group
ErrorCodeSamples	list	No	Yes	Sample of the error code returned by the backend service
Description	string	No	Yes	API description, up to 180 characters

SystemParameters	list	No	Yes	System parameters of the API
ServiceParameters	list	No	Yes	Description on parameters of the API request sent by the gateway to a backend service
OpenIdConnectConfig	map	No	Yes	Configuration items of the third-party authenticated OpenID Connect

AuthType	string	No	Yes	API security authorization type. The optional values are as follows: · APP: Only authorized APPs can call the API · ANONYMOUS: The API can be called anonymously. In such mode, you must note the following: Anyone who can obtain this API service information can call this API. The gateway does not authenticate the identity of callers and cannot set traffic limits for individual users. If you activate this API, set API-based throttling
Issue: 20190422				. We recommend that

ServiceParametersMap	list	No	Yes	Mappings between parameters of a request sent by a consumer to the gateway and parameters of a request sent by the gateway to a backend service
FailResultSample	string	No	Yes	Sample of the reply failure returned by the backend service
RequestParameters	list	No	Yes	Parameter description of the API request sent by the consumer to the gateway
ConstantParameters	list	No	Yes	Constant parameter of the specified API

ErrorCodeSample syntax

```
" ErrorCodeSample " : {
  " Message " : String ,
  " Code " : String ,
  " Description " : String
}
```

ErrorCodeSample properties

Name	Type	Required	Update allowed	Description
Message	string	Yes	Yes	Error message
Code	string	Yes	Yes	Error code
Description	string	No	Yes	Error description

ServiceConfig syntax

```

" ServiceCon fig " : {
  " ServiceTim eOut " : Integer ,
  " VpcConfig " : Map ,
  " MockResult " : String ,
  " ServicePat h " : String ,
  " ServicePro tocol " : String ,
  " ServiceVpc Enable " : String ,
  " ServiceAdd ress " : String ,
  " ContentType eValue " : String ,
  " ServiceHtt pMethod " : String ,
  " ContentType eCatagory " : String ,
  " AoneAppNam e " : String ,
  " Mock " : String
}

```

ServiceConfig properties

Name	Type	Required	Update allowed	Description
ServiceTim eOut	integer	Yes	Yes	Backend service timeout time, in milliseconds
ServiceAddress	string	Yes	Yes	Backend service call address. If the complete backend service address is http://api .a.com:8080 /object/add? key1=value1& key2=value2, ServiceAddress is http://api.a. com:8080

ServicePath	string	Yes	Yes	Backend service call path. If the complete backend service address is http://api.a.com:8080/object/add?key1=value1&key2=value2, ServicePath is /object/add
ServiceProtocol	string	Yes	Yes	Backend service protocol type, which must be HTTP currently . The default value is HTTP
ServiceHttpMethod	string	Yes	Yes	Backend service HTTP call method. The optional values are GET, POST, DELETE, PUT , HEADER, TRACE, PATCH , CONNECT, and OPTIONS . The default value is GET

ContentTypeCategory	string	Yes	Yes	Strategy of obtaining the value of the ContentType header when you call the HTTP service of the backend service. The optional values are as follows: · DEFAULT : Use the default value of the API gateway · CUSTOM : Use the custom value · CLIENT: Use the header of ContentType of the client 's upstream The default value is CLIENT
ContentTypeValue	string	No	Yes	Value of the ContentType header when you call the HTTP service of the backend service and ContentTypeCategory is set to DEFAULT or CUSTOM

Mock	string	Yes	Yes	Whether the Mock mode is used. Optional values: TRUE and FALSE. The default value is FALSE
MockResult	string	No	Yes	Results returned when the Mock mode is enabled
ServiceVpc Enable	string	Yes	Yes	Whether the VPC channel is enabled. The optional values are TRUE and FALSE. The VPC channel can be enabled only after VPC authorization is successfully added. The default value is FALSE
VpcConfig	map	No	Yes	Configuration items of the VPC channel if the VPC channel is enabled

VpcConfi syntax

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

VpcConfig properties

Name	Type	Required	Update allowed	Description
------	------	----------	----------------	-------------

InstanceId	string	Yes	Yes	ID of the instance (ECS /Server Load Balancer) in VPC
VpcId	string	Yes	Yes	VPC ID
Port	integer	Yes	Yes	Number of the port corresponding to the instance

SystemParameters syntax

```
" SystemParameter " : {
  " Location " : String ,
  " ParameterName " : String ,
  " Description " : String ,
  " DemoValue " : String ,
  " ServiceParameterName " : String
}
```

SystemParameter properties

Name	Type	Required	Update allowed	Description
Location	string	Yes	Yes	Parameter location. The optional values are BODY and HEAD. The default value is HEAD
ParameterName	string	Yes	Yes	System parameter name. The optional values are as follows : CaClientId , CaDomain, CaRequestHandleTime , CaAppId, CaRequestId, CaHttpSchema , and CaProxy

ServiceParameterName	string	Yes	Yes	Corresponding backend parameter name
Description	string	No	Yes	Parameter description
DemoValue	string	No	Yes	Example

ServiceParameter syntax

```
" ServiceParameter " : {
  " ParameterType " : String ,
  " Location " : String ,
  " ServiceParameterName " : String ,
}
```

ServiceParameter properties

Name	Type	Required	Update allowed	Description
ParameterType	string	Yes	Yes	Backend parameter type. The optional values are STRING (character type), NUMBER (numeric type), and BOOLEAN (Boolean type)
Location	string	Yes	Yes	Parameter location. The optional values are BODY, HEAD, QUERY, and PATH
ServiceParameterName	string	Yes	Yes	Backend parameter name

OpenIdConnectConfig syntax

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

```
}

```

OpenIdConnectConfig properties

Name	Type	Required	Update allowed	Description
OpenIdApiType	string	Yes	Yes	OpenID Connect mode . The optional values are as follows: · IDTOKEN: Indicates the authorization API, which is used to issue a Token. If the attribute is set to IDTOKEN , the PublicKeyId and PublicKey parameters are required. · BUSINESS : Indicates the service API, which is used to verify a Token. If this attribute is set to BUSINESS , the IdTokenParameterName parameter is required
PublicKey	string	No	Yes	Public key

PublicKeyId	string	No	Yes	KeyID of a public key
IdTokenParameterName	string	No	Yes	Name of the parameter corresponding to a Token

RequestConfig syntax

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

RequestConfig properties

Name	Type	Required	Update allowed	Description
RequestMode	string	Yes	Yes	Request mode . The optional values are MAPPING (input mapping) and PASSTHROUGH (input passthrough). The default value is MAPPING
RequestPath	string	Yes	Yes	API path. If the complete API address is http://api.a.com: 8080 /object/add? key1=value1 &key2=value2 , the path is / object/add

RequestProtocol	string	Yes	Yes	API-supported protocol type . If multiple values are entered, they must be separated by commas(.). For example, HTTP ,HTTPS. The optional values are HTTP and HTTPS
RequestHttpMethod	string	Yes	Yes	HTTP method . The optional values are GET, POST, DELETE, PUT , HEADER, TRACE, PATCH , CONNECT, and OPTIONS . The default value is GET
PostBodyDescription	string	No	Yes	Body description

BodyFormat	string	No	Yes	Method of transmitting data to the server when a POST, PUT or PATCH request is sent. The optional values are FORM (data is transmitted as forms, which is applicable to key-value pairs) and STREAM (data is transmitted as byte streams). This parameter is valid when RequestMode is set to MAPPING
-------------------	---------------	-----------	------------	--

ServiceParametersMap syntax

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

ServiceParametersMap properties

Name	Type	Required	Update allowed	Description
-------------	-------------	-----------------	-----------------------	--------------------

RequestParameterName	string	Yes	Yes	Corresponding frontend input parameter name, which must be included in RequestParameter and matches RequestParameterName.
ServiceParameterName	string	Yes	Yes	Backend parameter name

RequestParameter syntax

```

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

```

RequestParameter properties

Name	Type	Required	Update allowed	Description
------	------	----------	----------------	-------------

ParameterType	string	Yes	No	Parameter type . The optional values are as follows: String (character type), Int (integer type), Long (long integer type), Float (single -precision floating-point type), Double (double -precision floating-point type), and Boolean (Boolean type)
Required	string	Yes	Yes	Required or not . The optional values are REQUIRED (required) and OPTIONAL (optional)
ApiParameterName	string	Yes	Yes	Parameter name
Location	string	Yes	Yes	Parameter location. The optional values are BODY, HEAD, QUERY, and PATH
RegularExpression	string	No	Yes	Parameter validation (regular expression) when ParameterType is set to String

Description	string	No	Yes	Parameter description
DefaultValue	string	No	Yes	Default value
MaxLength	integer	No	Yes	Maximum parameter length when ParameterType is set to String
MinLength	integer	No	Yes	Minimum parameter length when ParameterType is set to String
MaxValue	integer	No	Yes	Maximum parameter value when ParameterType is set to Int, Long, Float, or Double
MinValue	integer	No	Yes	Minimum parameter value when ParameterType is set to Int, Long, Float, or Double
EnumValue	string	No	Yes	ParameterType is set to Int, Long, Float, Double, or String. Different values must be separated by commas(.). For example, 1,2,3,4,9 or A,B,C,E,F

JsonScheme	string	No	Yes	JSON validation (JSON Schema) when ParameterType is set to String
DocOrder	integer	No	Yes	Sequence in the document
DocShow	string	No	Yes	Document visibility, which can be set to PUBLIC or PRIVATE
DemoValue	string	No	Yes	Example

ConstParameter syntax

```
" ConstParameter " : {
  " Location " : String ,
  " ConstValue " : String ,
  " Descriptio n " : String ,
  " ServiceParameterName " : String
}
```

ConstParameter properties

Namde	Type	Required	Update allowed	Description
Location	string	Yes	Yes	Parameter location, which can be set to BODY or HEAD . The default value is HEAD
ConstValue	string	Yes	Yes	Parameter value
ServiceParameterName	string	Yes	Yes	Backend parameter name
Description	string	No	Yes	Parameter description

Response value

Fn::GetAtt

ApiId None The id of the API.**Example**

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "GroupId": {
      "Type": "String",
      "Default": "xxxxec10b1_b4dc7a2e6b_a8ca3xxxx",
      "Description": "Operated group"
    }
  },
  "Resources": {
    "API": {
      "Type": "ALIYUN::ApiGateway::Api",
      "Properties": {
        "GroupId": {
          "Ref": "GroupId"
        },
        "ApiName": "API_test",
        "Visibility": "PRIVATE",
        "Description": "keep for test",
        "AuthType": "APP",
        "RequestConfig": {
          "RequestMethod": "GET",
          "RequestProtocol": "HTTP",
          "BodyFormat": "FORM",
          "PostBodyDescription": "k : v",
          "RequestPath": "/demo_test_345"
        },
        "ServiceConfig": {
          "ServiceProtocol": "HTTP",
          "ContentTypeValue": "application/x-www-form-urlencoded; charset=UTF-8",
          "Mock": "FALSE",
          "MockResult": "Nothing",
          "ServiceTimeout": 20000,
          "ServiceAddress": "https://mytest.cn",
          "ServicePath": "/Data",
          "ServiceRequestMethod": "GET",
          "ContentTypeCategory": "DEFAULT",
          "ServiceVpcEnable": "FALSE"
        },
        "RequestParameters": [
          {
            "Required": "OPTION",
            "ParameterType": "String",
            "ApiParameterName": "x-demo",
            "DocShow": "PUBLIC",
            "DefaultValue": "x-demo-val",
            "Location": "HEAD",
            "DocOrder": 0
          },
          {
            "Required": "OPTION",
            "ParameterType": "String",
            "ApiParameterName": "y-demo",
            "DocShow": "PUBLIC",
            "DefaultValue": "y-demo-val",
            "Location": "QUERY",
            "DocOrder": 1
          }
        ]
      }
    }
  }
}
```

```

    ],
    "ServicePar  ameters ": [
      {
        " ServicePar  ameterName ": " x - demo - ser ",
        " ParameterT  ype ": " STRING ",
        " Location ": " HEAD "
      },
      {
        " ServicePar  ameterName ": " y - demo - ser ",
        " ParameterT  ype ": " STRING ",
        " Location ": " QUERY "
      }
    ],
    "ServicePar  ametersMap ": [
      {
        " ServicePar  ameterName ": " x - demo - ser ",
        " RequestPar  ameterName ": " x - demo "
      },
      {
        " ServicePar  ameterName ": " y - demo - ser ",
        " RequestPar  ameterName ": " y - demo "
      }
    ],
    " ResultType ": " JSON ",
    " ResultSamp le ": " demo sample result ",
    " FailResult Sample ": " demo faile sample result ",
    " ErrorCodes amples ": [
      {
        " Descriptio n ": "???",
        " Message ": " Missing ",
        " Code ": " 400 "
      },
      {
        " Descriptio n ": "???",
        " Message ": " Missing ",
        " Code ": " 401 "
      }
    ],
    "SystemPara meters ": [
      {
        " Descriptio n ": " ClientIP ",
        " ServicePar  ameterName ": " demo - sys - ser ",
        " DemoValue ": " 192 . 168 . 1 . 1 ",
        " Location ": " HEAD ",
        " ParameterN ame ": " CaClientIp "
      }
    ],
    "ConstParam eters ": [
      {
        " Descriptio n ": " demo_const ",
        " ServicePar  ameterName ": " demo - const - ser ",
        " Location ": " HEAD ",
        " ConstValue ": " demo_const _val "
      }
    ]
  }
}
}
}
}

```

2 Container Service

2.1 ALIYUN::CS::Cluster

ALIYUN::CS::Cluster is used to create an Alibaba Cloud Docker cluster.

Syntax

```
{
  " Type ": " ALIYUN :: CS :: Cluster ",
  " Properties ": {
    " SystemDisk Category ": String ,
    " VpcId ": String ,
    " Name ": String ,
    " DataDiskCa tegory ": String ,
    " Password ": String ,
    " ZoneId ": String ,
    " ImageId ": String ,
    " VSwitchId ": String ,
    " SubnetCidr ": String ,
    " DataDiskSi ze ": Integer ,
    " IoOptimize d ": Boolean ,
    " CreateSlbB yDefault ": Boolean ,
    " InstanceTy pe ": String ,
    " InstanceId s ": List ,
    " Size ": Integer
  }
}
```

Properties

Name	Type	Required	Description	Validity
Name	String	Yes	The name of the Docker cluster.	The name must be 1 to 64 characters in length and can contain letters , digits, and hyphens (-).
InstanceType	String	No	The type of ECS instances used to create the Docker cluster.	None

Name	Type	Required	Description	Validity
Size	Integer	Yes	The number of ECS instances contained in the Docker cluster.	None
VpcId	String	No	The ID of the VPC to which the Docker cluster belongs.	None
ImageId	String	No	The ID of the image used by the ECS instances.	None
VSwitchId	String	No	The ID of the VSwitch in the VPC.	None
SubnetCidr	String	No	The subnet CIDR block of the Docker cluster.	The allowed subnet CIDR block ranges from 172.17.0.0/24 to 172.31.0.0/24. Make sure that the subnet CIDR block is different from that of the VPC.
Password	String	Yes	The password used to log on to an ECS instance.	The password must be 8 to 30 characters in length and can contain letters and digits. It cannot contain any special characters.
ZoneId	String	No	The ID of the zone where the Docker cluster resides.	None

Name	Type	Required	Description	Validity
SystemDiskCategory	String	No	The type of a system disk.	Valid values : cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd . Default value: cloud.
DataDiskCategory	String	No	The type of a data disk.	Valid values : cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd . Default value: cloud.
DataDiskSize	Integer	No	The size of the data disk.	Unit: GB.
IoOptimized	Boolean	No	This parameter specifies whether a created ECS instance is I/O optimized.	Valid values: true and false. Default value: false.
CreateSlbByDefault	Boolean	No	This parameter specifies whether to create a Server Load Balancer (SLB) instance for the Docker cluster.	Valid values: true and false. Default value: false.

Name	Type	Required	Description	Validity
InstanceIds	List	No	The list of IDs of ECS instances used to create the Docker cluster.	IDs in the list are separated by commas (.). This parameter is inapplicable if the InstanceType parameter is set. If this parameter is set, other properties of ALIYUN::CS::Cluster are inapplicable, except for the Size property which indicates the number of IDs in the list. System disks of all ECS instances corresponding to the IDs are replaced. If you set this parameter when creating a Docker cluster, ensure that data in the system disks has been backed up.

Response parameters

Fn::GetAtt

- **MasterUrl**: the master URL of the cluster.
- **Ca**: the CA certificate.
- **ClusterId**: the ID of the cluster.

- Cert: the client certificate.
- Key: the client primary key.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MyCluster": {
      "Properties": {
        "InstanceType": "ecs.s1.small",
        "Name": "stormcluster",
        "Password": "Test1234",
        "Size": "1"
      },
      "Type": "ALIYUN::CS::Cluster"
    }
  },
  "Outputs": {
    "CaCert": {
      "Description": "CA cert of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "MyCluster",
          "Ca"
        ]
      }
    },
    "ClientCert": {
      "Description": "Client cert of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "MyCluster",
          "Cert"
        ]
      }
    },
    "ClientKey": {
      "Description": "Client key of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "MyCluster",
          "Key"
        ]
      }
    },
    "ClusterId": {
      "Description": "Id of the cluster.",
      "Value": {
        "Fn::GetAtt": [
          "MyCluster",
          "ClusterId"
        ]
      }
    },
    "Endpoints": {
      "Description": "Endpoints of the app.",
      "Value": {
        "Fn::GetAtt": [
          "App",
          "Endpoints"
        ]
      }
    }
  }
}
```

```
    }  
  },  
  "MasterUrl ": {  
    "Description ": " Master url of the cluster .",  
    "Value ": {  
      "Fn :: GetAtt ": [  
        " MyCluster ",  
        " MasterUrl "  
      ]  
    }  
  }  
}  
}
```

3 ECS

3.1 ALIYUN::ECS::AutoSnapshotPolicy

Configures the policy for automatically creating snapshots.

Syntax

```
{
  "Type" : "ALIYUN::ECS::AutoSnapshotPolicy",
  "Properties" : {
    "TimePoints" : String,
    "RepeatWeekDays" : String,
    "RetentionDays" : Integer,
    "DiskIds" : String,
    "AutoSnapshotPolicyName" : String
  }
}
```

}

Properties

Name	Type	Required	Editable	Description	Validity
TimePoints	List	Yes	Yes	The time for automatically creating snapshots, measured in hours.	The value ranges from 0 to 23, indicating 24 hours. For example, 1 indicates 01:00. Set the TimePoints parameter to an array if you want to schedule multiple automatic snapshot tasks for a day. · A maximum of 24 points in time can be specified at a time. · List the points in time in the format of [0, 1, ... 23] and use half-width commas (,) to separate each value.

Name	Type	Required	Editable	Description	Validity
RepeatWeekdays	List	Yes	Yes	The points in time for the recurring task of automatically creating snapshots. Unit: day. Recurring cycle: week.	The value ranges from 1 to 7, indicating the seven days of a week. For example, 1 indicates Monday. Set the RepeatWeekdays parameter to an array if you want to schedule multiple points in time for the recurring task of automatically creating snapshots within a week. · A maximum of seven days can be specified at a time. · List the days in the format of [1, 2, ... 7] and use half-width commas (,) to separate the days.

Name	Type	Required	Editable	Description	Validity
RetentionDays	Integer	Yes	Yes	The duration during which a snapshot can be retained. Unit: day.	Valid values: · -1: indicates that the snapshots are permanently retained. · [1, 65536]: indicates the number of days during which the snapshots are retained. Default value: -1.

Name	Type	Required	Editable	Description	Validity
DiskIds	List	Yes	Yes	The destination disk ID. To apply an automatic snapshot policy to more than one disk, list the disk IDs in the form of ["d-xxxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz"], and use half-width commas (,) to separate disk IDs.	N/A

Name	Type	Required	Editable	Description	Validity
AutoSnapshotPolicyName	String	No	Yes	The name of the automatic snapshot policy.	· The name must be 2 to 128 characters in length · and can contain digits, colons(:), underscores (_), and hyphens (-). · It must start with an uppercase letter, lowercase letter, or a Chinese character and must not start with http:// or https://. Default value: empty

Response elements

FN::GetAtt

- **AutoSnapshotPolicyId**: indicates the ID of the automatic snapshot policy.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "AutoSnapshotPolicy": {
      "Type": "ALIYUN::ECS::AutoSnapshotPolicy",
      "Properties": {
```

```

    " TimePoints ": [ " 0 " ],
    " RepeatWeek days ": [ " 1 " ],
    " RetentionDays ": 10 ,
    " DiskIds ": [ "< DiskId >" ],
    " AutoSnapshotPolicyName ": " MyAutoSnapshotPolicy "
  }
}
}
}

```

3.2 ALIYUN::ECS::BandwidthPackage

ALIYUN::ECS::BandwidthPackage is used to create a bandwidth package for a specified NAT Gateway.

Syntax

```

{
  " Type ": " ALIYUN :: ECS :: BandwidthPackage ",
  " Properties ": {
    " Description ": String ,
    " NatGatewayId ": String ,
    " ZoneId ": String ,
    " BandwidthPackageName ": String ,
    " Bandwidth ": Integer ,
    " IpCount ": Integer
  }
}

```

Properties

Name	Type	Required	Description	Validity
NatGatewayId	String	Yes	The ID of the NAT Gateway to which you want to bind the created bandwidth package.	None
Bandwidth	Integer	Yes	The bandwidth supported by the NAT Gateway.	Valid values: 5 to 5,000. Unit: Mbit/s. Default value: 5.

Name	Type	Required	Description	Validity
IpCount	Integer	Yes	The number of public IP addresses allocated for the NAT Gateway.	Valid values: 1 to 5.
Description	String	No	The description of the bandwidth package.	The description must be 2 to 256 characters in length. This parameter is empty by default.
ZoneId	String	No	The ID of the zone in which the NAT Gateway resides.	None
BandwidthPackageName	String	No	The name of the bandwidth package.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-). It must start with a letter.

Name	Type	Required	Description	Validity
InternetChargeType	String	No	The billing method of the Internet bandwidth.	Valid values: - PayByBandwidth: The network service is billed by fixed bandwidth. - PayByTraffic: The network service is billed by traffic usage. Default value: PayByTraffic.

Response parameters

Fn::GetAtt

- BandwidthPackageId: the ID of the bandwidth package.
- BandwidthPackageIps: all IP addresses included in the bandwidth package.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "BandwidthPackage": {
      "Type": "ALIYUN::ECS::BandwidthPackage",
      "Properties": {
        "BandwidthPackageName": "pkg_2",
        "Description": "my_bandwidth",
        "NatGatewayId": "ngw-hlxoxepyf",
        "IpCount": 2,
        "Bandwidth": 5,
        "ZoneId": "cn-beijing-c"
      }
    }
  },
  "Outputs": {
    "BandwidthPackageId": {
      "Value": {"Fn::GetAttr": ["BandwidthPackage", "BandwidthPackageId"]}
    },
    "BandwidthPackageIps": {
      "Value": {"Fn::GetAttr": ["BandwidthPackage", "BandwidthPackageIps"]}
    }
  }
}
```

```
}
```

3.3 ALIYUN::ECS::Command

Creates a *cloud assistant* command.

Syntax

```
{
  "Type": "ALIYUN :: ECS :: Command",
  "Properties": {
    "Name": String,
    "WorkingDir": String,
    "CommandContent": String,
    "Timeout": Integer,
    "Type": String,
    "Description": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Name	String	No	Yes	The name of the command to be created . This parameter supports any character . The maximum length is 30 characters.	N/A
WorkingDir	String	No	Yes	The working directory where the command runs on ECS instances.	N/A

Name	Type	Required	Editable	Description	Validity
CommandContent	String	No	No	The Base64-encoded script of the command. If the <code>Type</code> is specified, this parameter must also be specified. This parameter must be Base64-encoded. The maximum size of the encoded script is 16 KB.	N/A

Name	Type	Required	Editable	Description	Validity
Timeout	Integer	No	Yes	The timeout value for running the command on ECS instances, measured in seconds. A timeout error occurs if the system does not respond to your command within the specified time. When this error occurs, the system stops the command by terminating the corresponding PID (process ID). Default value: 3600.	N/A

Name	Type	Required	Editable	Description	Validity
Type	String	Yes	No	The type of the command. Valid values: · RunBatScript: indicates creating a batch script for Windows instances. · RunPowerShellScript: indicates creating a PowerShell script for Windows instances. · RunShellScript: indicates creating a Shell script for Linux instances.	N/A
Description	String	No	Yes	The description of the command. The description supports any character. The maximum length is 100 characters.	N/A

Response elements

FN::GetAtt

- **CommandId**: indicates the ID of the created command.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "WorkingDir": {
      "Type": "String",
      "Description": "The path where the command will be executed in the instance."
    },
    "CommandContent": {
      "Type": "String",
      "Description": "The content of the command. Content requires base64 encoding. Maximum size support 16KB."
    },
    "Type": {
      "Type": "String",
      "Description": "The type of command."
    },
    "Description": {
      "Type": "String",
      "Description": "The description of the command."
    },
    "Timeout": {
      "Type": "Number",
      "Description": "Total timeout when the command is executed in the instance. Input the time unit as second. Default is 3,600s."
    },
    "Name": {
      "Type": "String",
      "Description": "The name of the command."
    }
  },
  "Resources": {
    "Command": {
      "Type": "ALIYUN::ECS::Command",
      "Properties": {
        "WorkingDir": {
          "Ref": "WorkingDir"
        },
        "CommandContent": {
          "Ref": "CommandContent"
        },
        "Type": {
          "Ref": "Type"
        },
        "Description": {
          "Ref": "Description"
        },
        "Timeout": {
          "Ref": "Timeout"
        },
        "Name": {
          "Ref": "Name"
        }
      }
    }
  }
}
```

```

    }
  }
},
"Outputs": {
  "CommandId": {
    "Description": "The id of created command .",
    "Value": {
      "Fn::GetAtt": [
        "Command",
        "CommandId"
      ]
    }
  }
}
}
}
}

```

3.4 ALIYUN::ECS::DedicatedHost

Creates dedicated hosts (DDHs).

Syntax

```

{
  "Type": "ALIYUN::ECS::DedicatedHost",
  "Properties": {
    "DedicatedHostType": String,
    "DedicatedHostName": String,
    "PeriodUnit": String,
    "AutoReleaseTime": String,
    "Description": String,
    "AutoRenewPeriod": String,
    "Period": String,
    "ZoneId": String,
    "AutoRenew": String,
    "ChargeType": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
DedicatedHostType	String	Yes	Yes	The specifications of a DDH.	N/A

Name	Type	Required	Editable	Description	Validity
DedicatedHostName	String	No	No	The name of a DDH. The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_) and hyphens (-). It must start with an uppercase letter, a lowercase letter, or a Chinese character and must not start with http:// or https://.	N/A

Name	Type	Required	Editable	Description	Validity
PeriodUnit	String	No	No	The unit of the billing cycle you select to extend the subscription.	Valid values: · Week. Valid values of the Period parameter : 1 2 3. · Month (default value). Valid values of the Period parameter : 1 2 3 6 12.

Name	Type	Required	Editable	Description	Validity
AutoReleaseTime	String	No	No	The time scheduled for a DDH to be automatically released. If you do not specify the AutoReleaseTime parameter, the automatic release feature is disabled. In this case, the DDH is not released as scheduled. • The specified release time for the DDH cannot be earlier than 30 minutes after the start time • or three years later than the start time. • If the <code>ss</code> parameter is not set to 00, the default value for the <code>mm</code> parameter	N/A
46					Issue: 20190422

Name	Type	Required	Editable	Description	Validity
Description	String	No	No	The description of a DDH.	N/A
AutoRenewPeriod	Number	No	No	The billing cycle for automatic renewal after a DDH expires. Unit : month.	Valid values : 1 2 3 6 12.
Period	Number	No	No	The subscription period of a DDH. Unit: month.	Valid values : 1 to 9 12 24 36 48 60.
ZoneId	String	No	No	The ID of the zone where a DDH is located. This parameter is unspecified by default. The DDH is randomly assigned to a zone by default.	N/A
AutoRenew	String	No	No	Specifies whether the automatic renewal feature of a DDH is enabled. Default value: False.	Valid value: True.

Name	Type	Required	Editable	Description	Validity
ChargeType	String	No	No	The billing method of a DDH.	Valid value: PrePaid. The subscription, or prepaid service, is billed on a yearly or monthly basis. You must ensure the balance of your account or credit balance can cover the cost of subscription. Otherwise, you will receive an InvalidPaymentMethod error code.

Response elements

Fn::GetAtt

- **OrderId**: indicates the ID of a DDH order.
- **DedicatedHostIds**: indicates the list of DDH IDs.

Example

```
{
  "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 ."
},
"ZoneId ": {
    "Type ": "String ",
    "Description ": "The zone to create the 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 "
},
"AutoRenew ": {
    "Type ": "String ",
    "Description ": "Whether renew the fee automatica
lly ? The subscription is automatica lly renewed when
the parameter InstanceChargeType is PrePaid . Range
of value : True : automatic renewal . False : no automatic
renewal . Default value is False .",
    "AllowedValues ": [
        "True ",
        "False "
    ],
    "Default ": "False "
},
"Period ": {
    "Type ": "Number ",
    "Description ": "Prepaid time period . Unit is
month , it can 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
},
"DedicatedHostType ": {
    "Type ": "String",
    "Description ": "The instance type of host ."
},
"PeriodUnit ": {
    "Type ": "String",
    "Description ": "Unit of prepaid time period , it
can be Week / Month . Default value is Month .",
    "AllowedValues ": [
        "Week",
        "Month"
    ],
    "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"
            },
            "ZoneId ": {
                "Ref ": "ZoneId"
            },
            "DedicatedHostName ": {
                "Ref ": "DedicatedHostName"
            },
            "ChargeType ": {
                "Ref ": "ChargeType"
            },
            "AutoRenew ": {
                "Ref ": "AutoRenew"
            },
            "Period ": {
                "Ref ": "Period"
            },
            "DedicatedHostType ": {
                "Ref ": "DedicatedHostType"
            },
            "PeriodUnit ": {
                "Ref ": "PeriodUnit"
            },
            "AutoReleaseTime ": {
                "Ref ": "AutoReleaseTime"
            }
        }
    }
}

```

```

    }
  },
  "Outputs ": {
    "OrderId ": {
      "Description ": " The order id list of a created instance .",
      "Value ": {
        "Fn :: GetAtt ": [
          " Host ",
          " OrderId "
        ]
      }
    },
    "DedicatedHostIds ": {
      "Description ": " The host id list of created hosts ",
      "Value ": {
        "Fn :: GetAtt ": [
          " Host ",
          " DedicatedHostIds "
        ]
      }
    }
  }
}

```

3.5 ALIYUN::ECS::Instance

ALIYUN::ECS::Instance is used to create an ECS instance.

Syntax

```

{
  "Type ": " ALIYUN :: ECS :: Instance ",
  "Properties ": {
    "DiskMappings ": List ,
    "IoOptimized ": String ,
    "InternetChargeType ": String ,
    "PrivateIpAddress ": String ,
    "SystemDisk.DiskName ": String ,
    "VpcId ": String ,
    "Description ": String ,
    "Tags ": List ,
    "HostName ": String ,
    "ImageId ": String ,
    "InstanceChargeType ": String ,
    "VSwitchId ": String ,
    "Password ": String ,
    "InstanceType ": String ,
    "SystemDisk.Category ": String ,
    "SystemDisk.Size ": Number ,
    "ZoneId ": String ,
    "InternetMaxBandwidthOut ": Integer ,
    "InstanceName ": String ,
    "InternetMaxBandwidthIn ": Integer ,
    "UserData ": String ,
    "SecurityGroupId ": String ,
    "Period ": Number ,
    "AllocatePublicIP ": Boolean ,
    "SystemDisk.Description ": String ,

```

```
" KeyPairName ": String ,
" RamRoleName ": String ,
" SpotPriceLimit ": String ,
" SpotStrategy ": String
}
```

}

Properties

Name	Type	Required	Editable	Description	Validity
ImageId	String	Yes	Yes	The ID of the image used to start the ECS instance . You can use public images, custom images, and Alibaba Cloud Marketplace images.	When editing a template , you can specify the image type and version or only the image type. ROS automatically selects an appropriate public image ID. You can use the wildcard character (*) to represent part of an image ID. Take all Ubuntu public images provided by Alibaba Cloud as an example. To specify the public image ID for the ECS instance , use one of the following methods: If you enter ubuntu , the matching ID allocated by

Name	Type	Required	Editable	Description	Validity
InstanceType	String	Yes	No	The type of the ECS instance. For more information, see ECS instance types .	None
SecurityGroupId	String	Yes	No	The ID of the security group to which the created instance belongs.	None
Description	String	No	No	The description of the ECS instance.	The description must be 1 to 256 characters in length.
InstanceName	String	No	No	The name of the ECS instance.	The name must be 1 to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-).

Name	Type	Required	Editable	Description	Validity
Password	String	No	No	The password used to log on to the ECS instance .	The password must be 8 to 30 characters in length. It must contain letters, digits, and special characters. The following special characters are allowed : parentheses (), apostrophes ('), tildes (~), exclamation points (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), caret signs (^), ampersands (&), asterisks (*), minus signs (-), plus signs (+), equal signs (=), vertical bars (), braces { }, brackets [], colons (:), semicolons (;), angle brackets (< >), commas

Name	Type	Required	Editable	Description	Validity
HostName	String	No	No	The hostname of the ECS instance.	The hostname must be at least 2 characters in length. It cannot start or end with a period (.) or a hyphen (-), nor can it contain consecutive periods (.) or hyphens (-). For Windows-based instances, the hostname must be 2 to 15 characters in length and can contain letters, digits, and hyphens (-). It cannot contain periods (.) and cannot be composed of only digits. For Linux-based instances, the hostname must be 2 to 30 characters in length

Name	Type	Required	Editable	Description	Validity
AllocatePublicIP	Boolean	No	No	This parameter specifies whether the system assigns a public IP address to the instance. If <code>InternetMaxBandwidthOut</code> is set to 0, no public IP addresses are assigned.	Default value: true.
PrivateIpAddress	String	No	No	The private IP address of the VPC-connected instance. The specified IP address must not be used by other VPC-connected instances.	None
InternetChargeType	String	No	No	The billing method for access over the Internet.	Valid values: <code>PayByBandwidth</code> and <code>PayByTraffic</code> . Default value: <code>PayByTraffic</code> .

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth from the Internet. Unit: Mbit/s.	Valid values : 1 to 100 . Default value: 100.
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth to the Internet. Unit: Mbit/s.	Valid values in PayByBandwidth mode : 0 to 200 . Default value: 0. Valid values in PayByTraffic mode: 1 to 200. You must specify this parameter if you choose to use the PayByTraffic mode.
IoOptimized	String	No	No	This parameter specifies whether to create an I/O optimized instance.	Valid values : none (non-I/O optimized) and optimized (I/O optimized). Default value: none.
DiskMappings	List	No	No	The list of disks you want to attach to the ECS instance .	A maximum of four disks can be attached.

Name	Type	Required	Editable	Description	Validity
SystemDisk Category	String	No	No	The type of a system disk.	Valid values : cloud, cloud_efficiency, cloud_ssd , and ephemeral_ssd.
SystemDisk Description	String	No	No	The description of the system disk.	None
SystemDisk DiskName	String	No	No	The name of the system disk.	None.
SystemDisk Size	Number	No	Yes	The size of the system disk. Unit: GB	Valid values : 40 to 500. If a custom image is used to create a system disk, make sure that the system disk size is greater than the image size.

Name	Type	Required	Editable	Description	Validity
Tags	List	No	No	The custom tags.	A maximum of four tags are supported. The format is [{"Key": "tagKey", "Value": "tagValue"}, {"Key": "tagKey2", "Value": "tagValue2"}].
UserData	String	No	No	The user information you provide when you create an ECS instance .	The size of the user data is limited to 16 KB. You need to convert the data into Base64-encoded strings. If the data contains special characters , add a backslash (\) immediately before each special character to indicate that it needs to be translated into the regular text.

Name	Type	Required	Editable	Description	Validity
ZoneId	String	No	No	The ID of the zone where the ECS instance resides.	None
VpcId	String	No	No	The ID of the VPC.	None
VSwitchId	String	No	No	The ID of the VSwitch.	None
InstanceChargeType	String	No	No	The billing method of the ECS instance.	Valid values : Prepaid and Postpaid . Default value: Postpaid. If you set this parameter to Prepaid , make sure you have sufficient balance in your account. Otherwise , instance creation fails.

Name	Type	Required	Editable	Description	Validity
Period	Number	No	No	The payment cycle. This parameter must be set when InstanceChargeType is set to Prepaid. This parameter is inapplicable when InstanceChargeType is set to Postpaid.	Valid values : 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Unit: month.

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of the key pair that is used to connect to the ECS instance.	For Windows-based instances, this parameter is empty by default. For Linux-based instances, the Password parameter still takes effect if this parameter is specified. However, logon by password is disabled, and the KeyPairName value is used.
RamRoleName	String	No	No	The RAM role name of the instance. You can call the <code>ListRoles</code> operation to query the role name. For more information, see CreateRole and ListRoles .	None

Name	Type	Required	Editable	Description	Validity
SpotPriceLimit	String	No	No	The maximum hourly price of the instance.	This parameter is applicable only when <code>SpotStrategy</code> is set to <code>SpotWithPriceLimit</code> . Three decimal places are allowed at most.

Name	Type	Required	Editable	Description	Validity
SpotStrategy	String	No	No	The spot strategy for a Pay-As-You-Go instance.	This parameter is applicable only when InstanceChargeType is set to PostPaid. Valid values: NoSpot: indicates a regular Pay-As-You-Go instance. SpotWithPriceLimit: indicates a Pay-As-You-Go instance with the maximum hourly price. SpotAsPriceGo: indicates that the system automatically offers a spot hourly price for an instance based on the supply-demand statistics. The spot price is limited to the cost of resources you actually use. Default value: NoSpot.

Name	Type	Required	Editable	Description	Validity
DedicatedHostId	String	No	No	This parameter specifies whether to create an ECS instance that runs on a dedicated host (DDH). You can use the DescribeDedicatedHosts API to query the list of DDH IDs. After you set the DedicatedHostId parameter, the system automatically ignores the SpotStrategy and SpotPriceLimit settings in the request. This is because you cannot create preemptible instances on DDHs.	None

Name	Type	Required	Editable	Description	Validity
PeriodUnit	String	No	No	The subscription period of the ECS instance. When the PeriodUnit parameter is set to Week: - Valid values for the Period parameter : 1, 2, 3, and 4. - Valid values for the AutoRenewPeriod parameter : 1, 2, and 3. When the PeriodUnit parameter is set to Month: - Valid values for the Period parameter : 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, 48, and 60. - Valid values for the AutoRenewPeriod parameter : 1, 2, 3, 6	Valid values : Week and Month. Default value: Month.

Name	Type	Required	Editable	Description	Validity
AutoRenewPeriod	Number	No	No	The period your subscription is automatically extended by after an instance expires. This parameter is required when AutoRenew is set to True. Valid values: 1, 2, 3, 6, and 12.	Valid values: 1, 2, 3, 6, and 12.
AutoRenew	String	No	No	This parameter specifies whether to enable automatic renewal for an instance. This parameter is applicable only when InstanceChargeType is set to PrePaid.	Valid values: · True: indicates that automatic renewal is enabled for an instance. · False: indicates that automatic renewal is disabled for an instance.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
```

```

    " SnapshotId ": String ,
    " Size ": String
  }
]

```

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Size	String	Yes	No	The size of a data disk. Unit: GB.	None
Category	String	No	No	The type of the data disk.	Valid values : cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd. Default value: cloud.
DiskName	String	No	No	The name of the data disk.	The name must be 1 to 128 characters in length and 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. This parameter is empty by default.

Name	Type	Required	Editable	Description	Validity
Device	String	No	No	The device name of the data disk.	If you do not set this parameter, the system automatically allocates a device name in the default order from /dev/xvdb to /dev/xvdz.
SnapshotId	String	No	No	The ID of the snapshot used to create the data disk.	None

Tags syntax

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

Tags properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	None
Value	String	No	No	None	None

Response parameters

Fn::GetAtt

- **InstanceId**: the ID of a VPC-connected instance. It is a globally unique identifier (GUID) generated by the system for the instance.
- **PrivateIp**: the private IP address of the VPC-connected instance. This parameter is applicable only when the `NetworkType` parameter is set to VPC.

- **InnerIp**: the private IP address of a classic network-connected instance. This parameter is applicable only when the `NetworkType` parameter is set to `Classic`.
- **PublicIp**: the list of public IP addresses of classic network-connected instances. This parameter is applicable only when the `NetworkType` parameter is set to `Classic`.
- **ZoneId**: the ID of the zone where the instance resides.
- **HostName**: the hostname of the instance.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "WebServer": {
      "Type": "ALIYUN::ECS::Instance",
      "Properties": {
        "ImageId": "m-25l0rcfjo",
        "InstanceType": "ecs.t1.small",
        "SecurityGroupId": "sg-25zwc3se0",
        "ZoneId": "cn-beijing-b",
        "Tags": [
          {
            "Key": "tiantt",
            "Value": "ros"
          },
          {
            "Key": "tiantt1",
            "Value": "ros1"
          }
        ]
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Value": {"get_attr": ["WebServer", "InstanceId"]}
    },
    "PublicIp": {
      "Value": {"get_attr": ["WebServer", "PublicIp"]}
    }
  }
}
```

3.6 ALIYUN::ECS::InstanceClone

ALIYUN::ECS::InstanceClone is used to clone ECS instances.

Syntax

```
{
  "Type": "ALIYUN::ECS::InstanceClone",
  "Properties": {
    "SourceInstanceId": String,
    "BackendServerWeight": Integer,

```

```

    "LoadBalancerIdToAttach": String ,
    "SecurityGroupId": String ,
    "ImageId": String ,
    "InstanceName": String ,
    "Description": String ,
    "Password": String ,
    "ZoneId": String ,
    "DiskMappings": List ,
    "Tags": List ,
    "KeyPairName": String ,
    "RamRoleName": String ,
    "SpotPriceLimit": String ,
    "SpotStrategy": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
SourceInstanceId	String	Yes	No	The ID of the ECS instance you want to clone.	The clone operation clones the instance type, image, bandwidth billing method, bandwidth limit, and network type. If the source ECS instance belongs to multiple security groups, the cloned instance is added to the first of these security groups.

Name	Type	Required	Editable	Description	Validity
BackendServerWeight	Integer	No	No	The weight of 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 ECS instance is attached.	None
Description	String	No	No	The description of the ECS instance.	The description must be 1 to 256 characters in length.

Name	Type	Required	Editable	Description	Validity
ImageId	String	No	Yes	The ID of the image used to start the ECS instance. You can use public images, custom images, and Alibaba Cloud Marketplace images. For more information, see Public images for ECS instances .	When editing a template, you can specify the image type and version or only the image type. ROS automatically selects an appropriate public image ID. You can use the wildcard character (*) to represent part of an image ID. Take all Ubuntu public images provided by Alibaba Cloud as an example. To specify the public image ID for the ECS instance, use one of the following methods: If you enter ubuntu, the matching ID allocated by the system is ubuntu16_0402_64_20G

Name	Type	Required	Editable	Description	Validity
SecurityGroupId	String	No	No	The ID of the security group to which the created instance belongs.	None
InstanceName	String	No	No	The name of the instance.	The name must be 1 to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-).

Name	Type	Required	Editable	Description	Validity
Password	String	No	No	The password used to log on to the ECS instance .	The password must be 8 to 30 characters in length. It must contain letters, digits, and special characters. The following special characters are allowed : parentheses (()), apostrophes ('), tildes (~), exclamation points (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), caret signs (^), ampersands (&), asterisks (*), minus signs (-), plus signs (+), equal signs (=), vertical bars (), braces { }, brackets [], colons (:), semicolons (;), angle brackets (< >), commas

Name	Type	Required	Editable	Description	Validity
DiskMappings	List	No	No	The list of disks you want to attach to the ECS instance.	A maximum of four disks can be attached.
Tags	List	No	No	The custom tags.	A maximum of four tags are supported. The format is [{"Key": "tagKey", "Value": "tagValue"}, {"Key": "tagKey2", "Value": "tagValue2"}].
ZoneId	String	No	No	The ID of the zone where the ECS instance resides.	None

Name	Type	Required	Editable	Description	Validity
InstanceChargeType	String	No	No	The billing method of the instance.	Valid values : Prepaid and Postpaid . Default value: Postpaid. If you set this parameter to Prepaid , make sure you have sufficient balance in your account. Otherwise , instance creation fails.
Period	Number	No	No	The payment cycle. This parameter must be set when InstanceChargeType is set to Prepaid . This parameter is inapplicable when InstanceChargeType is set to Postpaid.	Valid values : 1, 2, 3, 4, 5 , 6, 7, 8, 9, 12 , 24, and 36. Unit: month.

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of the key pair that is used to connect to the ECS instance.	For Windows-based instances, this parameter is empty by default. For Linux-based instances, the Password parameter still takes effect if this parameter is specified. However, logon by password is disabled, and the KeyPairName value is used.
RamRoleName	String	No	No	The RAM role name of the instance. You can call the <code>ListRoles</code> operation to query the role name. For more information, see CreateRole and ListRoles .	None

Name	Type	Required	Editable	Description	Validity
SpotPriceLimit	String	No	No	The maximum hourly price of the instance.	This parameter is applicable only when SpotStrategy is set to SpotWithPriceLimit. Three decimal places are allowed at most.

Name	Type	Required	Editable	Description	Validity
SpotStrategy	String	No	No	The spot strategy for a Pay-As-You-Go instance.	This parameter is applicable only when InstanceChargeType is set to PostPaid. Valid values: NoSpot: indicates a regular Pay-As-You-Go instance. SpotWithPriceLimit: indicates a Pay-As-You-Go instance with the maximum hourly price. SpotAsPriceGo: indicates that the system automatically offers a spot hourly price for an instance based on the supply-demand statistics. The spot price is limited to the cost of resources you actually use.
Issue: 20190422					Default value: NoSpot.

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth from the Internet. Unit: Mbit/s.	Valid values : 1 to 200.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String
  }
]
```

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Size	String	Yes	No	The size of a data disk. Unit: GB.	None
Category	String	No	No	The type of the data disk.	Valid values : cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd. Default value: cloud.

Name	Type	Required	Editable	Description	Validity
DiskName	String	No	No	The name of the data disk.	The name must be 1 to 128 characters in length and 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. This parameter is empty by default.
Device	String	No	No	The device name of the data disk.	If you do not set this parameter, the system automatically allocates a device name in the default order from /dev/xvdb to /dev/xvdz.
Snapshotid	String	No	No	The ID of the snapshot used to create the data disk.	None

Tags syntax

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

Tags properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	None
Value	String	No	No	None	None

Response parameters

Fn::GetAtt

- **InstanceId**: the ID of a VPC-connected instance. It is a globally unique identifier (GUID) generated by the system for the instance.
- **PrivateIp**: the private IP address of the VPC-connected instance. This parameter is applicable only when the `NetworkType` parameter is set to VPC.
- **InnerIp**: the private IP address of a classic network-connected instance. This parameter is applicable only when the `NetworkType` parameter is set to Classic.
- **PublicIp**: the list of public IP addresses of classic network-connected instances. This parameter is applicable only when the `NetworkType` parameter is set to Classic.
- **ZoneId**: the ID of the zone where the instance resides.
- **HostName**: the hostname of the instance.

Examples

```
{
  " ROSTemplateFormatVersion ": " 2015 - 09 - 01 ",
  " Resources ": {
    " WebServer ": {
      " Type ": " ALIYUN :: ECS :: InstanceClass ",
      " Properties ": {
        " SourceInstanceId ": " i - 25zskuabf ",
        " SecurityGroupId ": " sg - 25zwc3se0 ",
        " ZoneId ": " cn - beijing - b ",
        " DiskMappings ": [
          { " Size ": 10 , " Category ": " cloud " },
          { " Size ": 10 , " Category ": " cloud ", " SnapshotId ":
            " s - 25wswg546 " }
        ]
      }
    }
  }
}
```

```

    ]
  }
},
"Outputs ": {
  "InstanceId ": {
    "Value ": {" get_attr ": [" WebServer "," InstanceId "]}
  },
  "PublicIp ": {
    "Value ": {" get_attr ": [" WebServer "," PublicIp "]}
  }
}
}
}

```

3.7 ALIYUN::ECS::InstanceGroup

ALIYUN::ECS::InstanceGroup is used to create an ECS instance group.

Syntax

```

{
  "Type ":" ALIYUN :: ECS :: InstanceGr oup ",
  "Properties ":{
    "SecurityGr oupId ": String ,
    "ImageId ": String ,
    "InstanceTy pe ": String ,
    "InstanceNa me ": String ,
    "Descriptio n ": String ,
    "HostName ": String ,
    "Password ": String ,
    "IoOptimize d ": String ,
    "ZoneId ": String ,
    "InternetCh argeType ": String ,
    "InternetMa xBandwidth In ": Integer ,
    "InternetMa xBandwidth Out ": Integer ,
    "VpcId ": String ,
    "VSwitchId ": String ,
    "MaxAmount ": Integer ,
    "MixAmount ": Integer ,
    "AllocatePu blicIP ": Boolean ,
    "AutoReleas eTime ": String ,
    "DiskMappin gs ": List ,
    "NetworkTyp e ": String ,
    "PrivateIpA ddress ": String ,
    "SystemDisk Category ": String ,
    "SystemDisk Descriptio n ": String ,
    "SystemDisk DiskName ": String ,
    "SystemDisk Size ": Number ,
    "Tags ": List ,
    "UserData ": String ,
    "KeyPairNam e ": String ,
    "RamRoleNam e ": String ,
    "SpotPriceL imit ": String ,
    "SpotStrate gy ": String
  }
}

```

}

Properties

Name	Type	Required	Editable	Description	Validity
MaxAmount	Integer	Yes	Yes	The maximum number of ECS instances to be created.	Valid values: 1 to 100. The MaxAmount parameter must be set to a value greater than or equal to the value of MinAmount.
MinAmount	String	Yes	Yes	The minimum number of ECS instances to be created.	Valid values: 1 to 100. The MinAmount parameter must be set to a value smaller than or equal to the value of MaxAmount.
Description	String	No	No	The instance description.	The description can be up to 256 characters in length.
InstanceType	String	Yes	No	The ECS instance type.	For more information, see ECS instance types .

Name	Type	Required	Editable	Description	Validity
ImageId	String	Yes	Yes	The ID of the image used to launch the ECS instance . You can use public images, custom images, and Alibaba Cloud Marketplace images.	Public images for ECS instances . You can fuzzy match the ID of a public image without having to provide the complete information. When you deploy an ECS instance, specify the image type and version or only the image type in the Resource Orchestration Service (ROS) template. ROS automatically allocates a matching public image ID to the instance based on the information you provide. You can use the wildcard character (*) to represent an unspecified part of a fuzzy image ID.

Name	Type	Required	Editable	Description	Validity
SecurityGroupId	String	No	No	The ID of the security group to which the created instance belongs.	None

Name	Type	Required	Editable	Description	Validity
InstanceName	String	No	No	The instance name.	The name can be up to 128 characters in length, including letters, digits, underscores (_), periods (.), and hyphens (-). Specify the instance names in the format of name_prefix[begin_number, bits]. The name_prefix parameter is required. This parameter specifies the prefix of the name for each instance. The [begin_number, bits] parameter specifies the part of an instance name to distinguish it from others. The begin_number parameter specifies the number to start from when you create an

Name	Type	Required	Editable	Description	Validity
Password	String	No	No	The password used to log on to an ECS instance.	The password must be 8 to 30 characters in length. It must contain uppercase or lowercase letters, numbers, and special characters. The following special characters are allowed: parentheses (), apostrophes ('), tildes (~), exclamation points (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), caret signs (^), ampersands (&), asterisks (*), minus signs (-), plus signs (+), equal signs (=), vertical bars (), braces {}, brackets [], colons (:), semicolons (;), angle

Name	Type	Required	Editable	Description	Validity
HostName	String	No	No	The hostname of an ECS instance.	The hostname must be at least 2 characters in length. It cannot start with a period (.) or a hyphen (-), nor can it contain consecutive periods (.) or hyphens (-). For Windows-based instances, the hostname can be up to 15 characters in length, including letters, digits, and hyphens (-), excluding periods (.). It cannot contain periods (.) and cannot be composed of only digits. For Linux-based instances, the hostname must be
					2 to 30 characters in length

Name	Type	Required	Editable	Description	Validity
AllocatePublicIP	Boolean	No	No	This parameter specifies whether the system assigns a public IP address to an instance . If the InternetMaxBandwidthOut parameter is set to 0, no public IP addresses are assigned .	Default value: true.
AutoReleaseTime	String	No	No	The time scheduled for an ECS instance to be automatically released.	The time format is yyyy-MM-ddTHH:mm:ssZ, which must comply with the ISO8601 standard . The specified release time must be within three years from the current time.

Name	Type	Required	Editable	Description	Validity
PrivateIpAddress	String	No	No	This parameter specifies the private IP address of a VPC-connected instance. The specified IP address must not be used by other VPC-connected instances.	None
DiskMappings	List	No	No	The data disks to be attached to an ECS instance.	None
InternetChargeType	String	No	No	The billing method for the public network.	Valid values: PayByBandwidth and PayByTraffic. Default value: PayByTraffic.
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth from the Internet. Unit: Mbit/s.	Valid values: 1 to 100. Default value: 100.

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth to the Internet. Unit: Mbit/s.	Valid values in PayByBandwidth mode : 0 to 200 . Default value: 0. Valid values in PayByTraffic mode: 1 to 200. This parameter must be specified in PayByTraffic mode.
IoOptimized	String	No	No	This parameter specifies whether to create an I/O optimized instance.	Valid values : none (non-I/O optimized) and optimized (I/O optimized). Default value: none.
DiskMappings	List	No	No	The list of disks you want to attach to the ECS instance .	A maximum of four disks can be attached.
SystemDiskCategory	String	No	No	The system disk type.	Valid values : cloud, cloud_efficiency, cloud_ssd , and ephemeral_ssd.

Name	Type	Required	Editable	Description	Validity
SystemDisk Description	String	No	No	The system disk description.	None
SystemDisk DiskName	String	No	No	The system disk name.	None
SystemDisk Size	Number	No	Yes	The system disk size.	Valid values : 40 to 500 . Unit: GB. If a custom image is used to create a system disk, make sure that the system disk size is greater than the image size.
Tags	List	No	No	The custom tags.	A maximum of four tags are supported. The format is [{ “ Key” :” tagKey” ,” Value” :” tagValue” }, { “Key” :” tagKey2” ,” Value” :” tagValue2 ” }].

Name	Type	Required	Editable	Description	Validity
UserData	String	No	No	The user information you provide when you create an ECS instance .	The size of the user data is limited to 16 KB. You need to convert the data into Base64-encoded strings. If the data contains special characters , put a backslash (\) immediately before each special character to indicate that it needs to be translated into regular text.
ZoneId	String	No	No	The ID of the zone where the ECS instance resides.	None
VpcId	String	No	No	The ID of the VPC.	None
VSwitchId	String	No	No	The ID of the VSwitch.	None
Networktype	String	No	No	The network type of the ECS instance .	Valid values : VPC and Classic.

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of the key pair that is used to connect to the ECS instance. For Windows-based instances, the KeyPairName parameter is inapplicable. This parameter is unspecified in the Windows system by default. For Linux-based instances, the value of the Password parameter is effective even if you specify this parameter. However, the password-based logon method is disabled by default.	None

Name	Type	Required	Editable	Description	Validity
RamRoleName	String	No	No	The RAM role name of the instance.	You can query the RAM role of an instance by calling the <code>ListRoles</code> API. For more information, see CreateRole and ListRoles .
SpotPriceLimit	String	No	No	The maximum hourly price of the instance.	This parameter is only applicable when <code>SpotStrategy</code> is set to <code>SpotWithPriceLimit</code> . Three decimal places are allowed at most.

Name	Type	Required	Editable	Description	Validity
SpotStrategy	String	No	No	The spot strategy for a Pay-As-You-Go instance .	This parameter is only applicable when InstanceChargeType is set to PostPaid. Valid values: NoSpot: indicates a regular Pay-As-You-Go instance. SpotWithPriceLimit: indicates a Pay-As-You-Go instance with a maximum hourly price . SpotAsPriceGo: indicates that the system automatically offers a spot hourly price for an instance based on the supply-demand statistics . The spot price is limited to the cost of resources you actually use. Default value:

Name	Type	Required	Editable	Description	Validity
DedicatedHostId	String	No	No	The ID of a dedicated host (DDH).	None
LaunchTemplateName	String	No	No	The name of the launch template for an instance.	None

Name	Type	Required	Editable	Description	Validity
PeriodUnit	String	No	No	The unit of the billing cycle. When the PeriodUnit parameter is set to Week: - Valid values for the Period parameter : 1, 2, 3, and 4. - Valid values for the AutoRenewPeriod parameter : 1, 2, and 3. When the PeriodUnit parameter is set to Month: - Valid values for the Period parameter : 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, 48, and 60. - Valid values for the AutoRenewPeriod parameter : 1, 2, 3, 6, and 12.	Valid values : Week and Month. Default value: Month.

Name	Type	Required	Editable	Description	Validity
AutoRenewPeriod	Number	No	Yes	The period your subscription is automatically extended by after an instance expires. This parameter is required when AutoRenew is set to True.	Valid values : 1, 2, 3, 6, and 12. Default value: 1.
AutoRenew	String	No	Yes	This parameter specifies whether the automatic renewal feature is enabled for an instance. This parameter is only applicable when InstanceChargeType is set to PrePaid.	Valid values: · True: indicates that the automatic renewal feature is enabled for an instance. · False: indicates that the automatic renewal feature is disabled for an instance.

Name	Type	Required	Editable	Description	Validity
InstanceChargeType	String	No	Yes	The billing method of an instance.	Valid values: - PrePaid: indicates the subscription billing method. In this case, the service is billed on a monthly or yearly basis. You must ensure the balance of your account or credit balance can cover the cost of the subscription. Otherwise, you will receive an InvalidPaymentMethod error code. - PostPaid: indicates the Pay-As-You-Go billing method. In this case, the service is billed by the amount of resources

Name	Type	Required	Editable	Description	Validity
EniMappings	List	No	Yes	The elastic network interface (ENI) attached to an instance.	Only one ENI can be attached to an instance.
LaunchTemplateId	String	No	Yes	The ID of the launch template for an instance.	None
LaunchTemplateVersion	String	No	Yes	The version of the launch template for an instance . If you do not specify a version, the default version is used.	None

Name	Type	Required	Editable	Description	Validity
Period	Number	No	Yes	The subscription period of an instance. Unit: Month. This parameter is required only when InstanceChargeType is set to PrePaid. If the DedicatedHostId parameter is specified, the subscription period of the instance must be shorter than the subscription period of DDH.	Valid values: - Valid values for the Period parameter in the case of PeriodUnit = Week: 1, 2, 3, and 4. - Valid values for the Period parameter in the case of PeriodUnit = Month: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, 48, and 60.
NetworkType	String	No	No	The network type of an ECS instance.	Valid values: VPC and Classic. Default value: Classic.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String
  }
]
```

]

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Size	String	Yes	No	The size of a data disk. Unit: GB.	None
Category	String	No	No	The type of the data disk.	Valid values : cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd.
DiskName	String	No	No	The name of the data disk.	The name can be up to 128 characters in length, including letters, digits, underscores (_), periods (.), and hyphens (-).
Description	String	No	No	The descriptive information of the data disk.	Valid values: 2 to 256. The parameter is unspecified by default.
Device	String	No	No	The device name of the data disk to be attached to an ECS instance.	For example, /dev/xvd[a-z].

Name	Type	Required	Editable	Description	Validity
SnapshotId	String	No	No	The ID of the snapshot used to create the data disk.	None

Tags syntax

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

Tags properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	None
Value	String	No	No	None	None

Response parameters

Fn::GetAtt

- **InstanceIds**: the IDs of instances in an instance group. An ID is a system-generated globally unique identifier (GUID) for each instance.
- **PrivateIps**: the list of private IP addresses of VPC-connected instances. This parameter is only applicable when the **NetworkType** parameter is set to VPC. The list is a JSON array, containing up to 100 IP addresses that are separated by commas. For example, ["172.16.1.1" , "172.16.2.1" , ... "172.16.10.1"].
- **InnerIps**: the list of private IP addresses of instances that are connected to the classic network. This parameter is only applicable when the **NetworkType** parameter is set to Classic. The list is a JSON array, containing up to 100 IP addresses that are separated by commas. For example, ["10.1.1.1" , "10.1.2.1" , ... "10.1.10.1"].
- **PublicIps**: the list of public IP addresses of instances that are connected to the classic network. This parameter is only applicable when the **NetworkType** parameter is set to Classic. The list is a JSON array, containing up to 100 IP

addresses that are separated by commas. For example, ["42.1.1.1" , "42.1.2.1" , ... "42.1.10.1"].

- **ZoneId**: the ID of the zone where the instances reside.
- **HostNames**: the list of hostnames of all instances. The list is set to an array in JSON format. For example, ["host1" , "host2" , ... "host3"].

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "WebServer": {
      "Type": "ALIYUN::ECS::InstanceGroup",
      "Properties": {
        "ImageId": "m-25l0rcfjo",
        "InstanceType": "ecs.t1.small",
        "SecurityGroupId": "sg-25zwc3se0",
        "ZoneId": "cn-beijing-b",
        "MaxAmount": 1,
        "MinAmount": 1,
        "Tags": [
          {
            "Key": "tiantt",
            "Value": "ros"
          },
          {
            "Key": "tiantt1",
            "Value": "ros1"
          }
        ]
      }
    }
  },
  "Outputs": {
    "InstanceId_s": {
      "Value": {"get_attr": ["WebServer", "InstanceId_s"]}
    },
    "PublicIps": {
      "Value": {"get_attr": ["WebServer", "PublicIps"]}
    }
  }
}
```

3.8 ALIYUN::ECS::InstanceGroupClone

ALIYUN::ECS::InstanceGroupClone is used to clone an ECS instance group.

Syntax

```
{
  "Type": "ALIYUN::ECS::InstanceGroupClone",
  "Properties": {
    "SourceInstanceId": String,
    "MaxAmount": Integer,
    "MinAmount": Integer,
    "BackendServerWeight": Integer,
    "LoadBalancerIdToAttach": String,
    "SecurityGroupId": String,

```

```

    " ImageId ": String ,
    " InstanceName ": String ,
    " Description ": String ,
    " Password ": String ,
    " ZoneId ": String ,
    " InternetMaxBandwidth Out ": Integer ,
    " AutoReleaseTime ": String ,
    " DiskMappings ": List ,
    " Tags ": List ,
    " KeyPairName ": String ,
    " RamRoleName ": String ,
    " SpotPriceLimit ": String ,
    " SpotStrategy ": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
SourceInstanceId	String	Yes	No	The ID of the ECS instance you intend to clone.	When the source instance is cloned, its type, image, network bandwidth billing method, bandwidth limit, and network type are cloned. If the source ECS instance is added to more than one security group, the new ECS instance is automatically added to the first security group that the source instance joins.

Name	Type	Required	Editable	Description	Validity
MaxAmount	Integer	Yes	Yes	The maximum number of ECS instances to be created.	Valid values: 1 to 100. The MaxAmount parameter must be set to a value greater than or equal to the value of MinAmount.
MinAmount	String	Yes	Yes	The minimum number of ECS instances to be created.	Valid values: 1 to 100. The MinAmount parameter must be set to a value smaller than or equal to the value of MaxAmount.
BackendServerWeight	Integer	No	No	The weight assigned to the ECS instance by 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 ECS instance is to be attached.	None

Name	Type	Required	Editable	Description	Validity
Description	String	No	No	The instance description.	The description can be up to 256 characters in length.

Name	Type	Required	Editable	Description	Validity
ImageId	String	No	Yes	The ID of the image used to launch the ECS instance . You can use public images, custom images, and Alibaba Cloud Marketplace images.	Public images for ECS instances . You can fuzzy match the ID of a public image without having to provide the complete information. When you deploy an ECS instance, specify the image type and version or only the image type in the Resource Orchestration Service (ROS) template. ROS automatically allocates a matching public image ID to the instance based on the information you provide. You can use the wildcard character (*) to represent an unspecified part of a fuzzy image ID.

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth to the Internet. Unit: Mbit/s.	Valid values in PayByBandwidth mode: 0 to 200. Default value: 0. Valid values in PayByTraffic mode: 1 to 200. This parameter must be specified in PayByTraffic mode.
SecurityGroupId	String	No	No	The ID of the security group to which the created instance belongs.	None
InstanceName	String	No	No	The instance name.	The name can be up to 128 characters in length, including letters, digits, underscores (_), periods (.), and hyphens (-).

Name	Type	Required	Editable	Description	Validity
Password	String	No	No	The password used to log on to the ECS instance .	The password must be 8 to 30 characters in length . It must contain uppercase or lowercase letters, numbers, and special characters . The following special characters are allowed : parentheses (()), apostrophes ('), tildes (~), exclamation points (!), at signs (@), number signs (#), dollar signs (\$), percent signs (%), caret signs (^), ampersands (&), asterisks (*), minus signs (-), plus signs (+), equal signs (=), vertical bars (), braces ({ }), brackets ([]), colons (:), semicolons (;), angle

Name	Type	Required	Editable	Description	Validity
DiskMappings	List	No	No	The list of disks you want to attach to the ECS instance.	A maximum of four disks can be attached.
Tags	List	No	No	The custom tags.	A maximum of four tags are supported. The format is [{"Key": "tagKey", "Value": "tagValue"}, {"Key": "tagKey2", "Value": "tagValue2"}].
ZoneId	String	No	No	The ID of the zone where the ECS instance resides.	None

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of the key pair that is used to connect to the ECS instance. For Windows-based instances, the KeyPairName parameter is inapplicable. This parameter is unspecified in the Windows system by default. For Linux-based instances, the value of the Password parameter is effective even if you specify this parameter. However, the password-based logon method is disabled by default.	None

Name	Type	Required	Editable	Description	Validity
RamRoleName	String	No	No	The RAM role name of the instance.	You can query the role name by calling the ListRoles API. For more information, see CreateRole and ListRoles .
SpotPriceLimit	String	No	No	The maximum hourly price of the instance.	Three decimal places are allowed at most. This parameter is only applicable when SpotStrategy is set to SpotWithPriceLimit.

Name	Type	Required	Editable	Description	Validity
SpotStrategy	String	No	No	The spot strategy for a Pay-As-You-Go instance .	This parameter is only applicable when InstanceChargeType is set to PostPaid. Valid values: NoSpot: indicates a regular Pay-As-You-Go instance. SpotWithPriceLimit: indicates a Pay-As-You-Go instance with a maximum hourly price . SpotAsPriceGo: indicates that the system automatically offers a spot hourly price for an instance based on the supply-demand statistics . The spot price is limited to the cost of resources you actually use. Default value:

Name	Type	Required	Editable	Description	Validity
SystemDisk DiskName	String	No	Yes	The system disk name . The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_), and hyphens (-). It must start with a letter, and must not start with http:// or https://. The parameter is unspecified by default.	None

Name	Type	Required	Editable	Description	Validity
PeriodUnit	String	No	Yes	The subscription period of an instance. When the PeriodUnit parameter is set to Week: - Valid values for the Period parameter : 1, 2, 3, and 4. - Valid values for the AutoRenewPeriod parameter : 1, 2, and 3. When the PeriodUnit parameter is set to Month: - Valid values for the Period parameter : 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, 36, 48, and 60. - Valid values for the AutoRenewPeriod parameter : 1, 2, 3, 6, and 12.	Valid values : Week and Month. Default value: Month.
120					Issue: 20190422

Name	Type	Required	Editable	Description	Validity
AutoRenewPeriod	Number	No	Yes	The period your subscription is automatically extended by after an instance expires. This parameter is required when AutoRenew is set to True.	Valid values : 1, 2, 3, 6, and 12. Default value: 1.
AutoRenew	String	No	Yes	This parameter specifies whether the automatic renewal feature is enabled for an instance. This parameter is only applicable when InstanceChargeType is set to PrePaid.	Valid values: · True: indicates that the automatic renewal feature is enabled for an instance. · False: indicates that the automatic renewal feature is disabled for an instance.
EniMappings	List	No	Yes	The elastic network interface (ENI) attached to an instance.	Only one ENI can be attached to an instance.

Name	Type	Required	Editable	Description	Validity
AutoReleaseTime	String	No	No	The time scheduled for an instance to be automatically released. The time must be specified in ISO8601 format in UTC. The format is yyyy-MM-ddTHH:mm:ssZ. · If the ss parameter is not set to 00, the default value for the mm parameter is set to the current start time. · The specified release time must be at least 30 minutes after the current time. · The specified release time must	None
122				be within 3 years from the current	Issue: 20190422

Name	Type	Required	Editable	Description	Validity
SystemDisk Category	String	No	Yes	The system disk type.	Valid values: · cloud: indicates basic disks. · cloud_effi ciency: indicates ultra disks. · cloud_ssd : indicates SSD disks · · ephemeral_ ssd: indicates local SSD disks. · cloud_essd: indicates ESSD disks. You can only download the beta test version of ESSD disks in selected zones because the product is not officially released yet. For more information, see FAQs about ESSD disks . 123 Default value for

Name	Type	Required	Editable	Description	Validity
LaunchTemplateName	String	No	Yes	The name of the launch template for an instance.	None
LaunchTemplateVersion	String	No	Yes	The version of the launch template for an instance . If you do not specify a version, the default version is used.	None
InternetMaxBandwidthIn	Integer	No	No	The maximum outbound bandwidth of the public network. Unit: Mbit/s.	Valid values : 1 to 200. Default value: 200.
LaunchTemplateId	String	No	Yes	The ID of a launch template.	None
SystemDiskDescription	String	No	Yes	The system disk description. The description must be 2 to 256 characters in length and cannot start with http:// or https://. The parameter is unspecified by default.	None

DiskMappings syntax

```

" DiskMappings ": [
  {
    " Category ": String ,
    " DiskName ": String ,
    " Descriptio n ": String ,
    " Device ": String ,
    " SnapshotId ": String ,
    " Size ": String
  }
]

```

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Size	String	Yes	No	The data disk size. Unit: GB.	None
Category	String	No	No	The data disk type.	Valid values : cloud, cloud_efficiency, cloud_ssd , and ephemeral_ssdDefault.
DiskName	String	No	No	The data disk name.	The name can be up to 128 characters in length, including letters , digits, underscores (_), periods (.), and hyphens (-).
Description	String	No	No	The data disk description.	Valid values: 2 to 256. The parameter is unspecified by default.

Name	Type	Required	Editable	Description	Validity
Device	String	No	No	The device name of the data disk attached to an ECS instance.	For example , /dev/xvd[a-z].
SnapshotId	String	No	No	The ID of the snapshot used to create the data disk.	None

Tags syntax

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

Tags properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	None
Value	String	No	No	None	None

Response parameters

Fn::GetAtt

- **InstanceIds**: the IDs of instances in an instance group. An ID is a system-generated globally unique identifier (GUID) for each instance.
- **PrivateIps**: the list of private IP addresses of VPC-connected instances. This parameter is only applicable when the **NetworkType** parameter is set to VPC. The list is a JSON array, containing up to 100 IP addresses that are separated by commas. For example, ["172.16.1.1" , " 172.16.2.1" , ... "172.16.10.1"].
- **InnerIps**: the list of private IP addresses of instances that are connected to the classic network. This parameter is only applicable when the **NetworkType** parameter is set to Classic. The list is a JSON array, containing up to 100 IP

addresses that are separated by commas. For example, ["10.1.1.1" , " 10.1.2.1" , ... "10.1.10.1"].

- **PublicIps:** the list of public IP addresses of instances that are connected to the classic network. This parameter is only applicable when the **NetworkType** parameter is set is **Classic**. The list is a JSON array, containing up to 100 IP addresses that are separated by commas. For example, ["42.1.1.1" , " 42.1.2.1" , ... "42.1.10.1"].
- **ZoneId:** the ID of the zone where the instances reside.
- **HostNames:** the list of hostnames of all instances. The list is set to an array in JSON format. For example, ["host1" , "host2" , ... "host3"].

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "WebServer": {
      "Type": "ALIYUN::ECS::InstanceGroupClone",
      "Properties": {
        "SourceInstanceId": "i-25zskuabf",
        "ImageId": "m-25l0rcfjo",
        "SecurityGroupId": "sg-25zwc3se0",
        "ZoneId": "cn-beijing-b",
        "MaxAmount": 1,
        "MinAmount": 1
      }
    }
  },
  "Outputs": {
    "InstanceId": {
      "Value": {"get_attr": ["WebServer", "InstanceId"]}
    },
    "PublicIps": {
      "Value": {"get_attr": ["WebServer", "PublicIps"]}
    }
  }
}
```

3.9 ALIYUN::ECS::Invocation

Initiates a cloud assistant command for ECS instances.

Syntax

```
{
  "Type": "ALIYUN::ECS::Invocation",
  "Properties": {
    "Timed": Boolean,
    "Frequency": String,
    "CommandId": String,
    "InstanceId": List
  }
}
```

```
}

```

Properties

Name	Type	Required	Editable	Description	Validity
Timed	Boolean	No	No	Specifies whether the command is repeatedly implemented. Default value: False.	N/A
Frequency	String	No	No	The frequency of a recurring command task. The parameter uses a Cron Expression .	N/A
CommandId	String	Yes	No	The ID of the command.	N/A
InstanceIds	List	Yes	No	The list of instances for which you want to implement the command. A maximum of 20 instances can be specified at a time.	N/A

Response elements

FN::GetAtt

- **InvokeId**: indicates the ID of the command invoked.

Example

```
{

```

```

" ROSTemplateFormatVersion ": " 2015 - 09 - 01 ",
" Parameters ": {
  " Timed ": {
    " Type ": " Boolean ",
    " Descriptio n ": " Whether it is a timed execution
. Default is False .",
    " AllowedVal ues ": [
      " True ",
      " true ",
      " False ",
      " false "
    ]
  },
  " Frequency ": {
    " Type ": " String ",
    " Descriptio n ": " The frequency of timed execution (
the shortest frequency is performed every 1 minute ).
It is mandatory when Timing is True . The value rule
follows the rules of the cron expression . "
  },
  " CommandId ": {
    " Type ": " String ",
    " Descriptio n ": " The id of command ."
  },
  " InstanceId s ": {
    " Type ": " CommaDelim itedList ",
    " Descriptio n ": " The instance id list . Select up
to 20 instances at a time . The network type for
all instances must be a VPC network , and the status
must be set to running "
  }
},
" Resources ": {
  " Invocation ": {
    " Type ": " ALIYUN :: ECS :: Invocation ",
    " Properties ": {
      " Timed ": {
        " Ref ": " Timed "
      },
      " Frequency ": {
        " Ref ": " Frequency "
      },
      " CommandId ": {
        " Ref ": " CommandId "
      },
      " InstanceId s ": {
        " Fn :: Split ": [
          "",
          {
            " Ref ": " InstanceId s "
          },
          {
            " Ref ": " InstanceId s "
          }
        ]
      }
    }
  }
},
" Outputs ": {
  " InvokeId ": {
    " Descriptio n ": " The id of command execution .",
    " Value ": {
      " Fn :: GetAtt ": [

```

```

        " Invocation ",
        " InvokeId "
    ]
}
}
}
}
}

```

3.10 ALIYUN::ECS::LaunchTemplate

Creates a template to launch ECS instances.

Syntax

```

{
  " Type ": " ALIYUN :: ECS :: LaunchTemp late ",
  " Properties ": {
    " LaunchTemp lateName ": String ,
    " VersionDes cription ": String ,
    " ImageId ": String ,
    " InstanceTy pe ": String ,
    " SecurityGr oupId ": String ,
    " NetworkTyp e ": String ,
    " VSwitchId ": String ,
    " InstanceNa me ": String ,
    " Descriptio n ": String ,
    " InternetMa xBandwidth In ": Integer ,
    " InternetMa xBandwidth Out ": Integer ,
    " HostName ": String ,
    " ZoneId ": String ,
    " SystemDisk Category ": String ,
    " SystemDisk Size ": Number ,
    " SystemDisk DiskName ": String ,
    " SystemDisk Descriptio n ": String ,
    " IoOptimize d ": String ,
    " InternetCh argeType ": String ,
    " UserData ": String ,
    " KeyPairNam e ": String ,
    " RamRoleNam e ": String ,
    " AutoReleas eTime ": String ,
    " SpotStrate gy ": String ,
    " SpotPriceL imit ": String ,
    " SecurityEn hancementS trategy ": String ,
    " DiskMappin gs ": List ,
    " NetworkInt ernetFaces ": List ,
    " Tags ": List ,
    " TemplateTa gs ": List
  }
}

```

}

Properties

Name	Type	Required	Editable	Description	Validity
LaunchTemplateName	String	Yes	No	The name of the launch template for ECS instances.	The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_), and hyphens (-). It must start with an uppercase letter, lowercase letter, or a Chinese character, and must not start with http:// or https://.
VersionDescription	String	No	No	The description for the first version of the template to launch ECS instances.	The description must be 2 to 256 characters in length and must not start with http:// or https://.
ImageId	String	No	No	The ID of an image used to boot the instance.	N/A

Name	Type	Required	Editable	Description	Validity
InstanceType	String	No	No	The type of an instance.	N/A
SecurityGroupId	String	No	No	The ID of a security group.	N/A
NetworkType	String	No	No	The network type of an instance.	Valid values: classic: indicates classic networks. vpc: indicates VPCs.
VSwitchId	String	No	No	The ID of the VSwitch that is specified when you create a VPC instance.	N/A

Name	Type	Required	Editable	Description	Validity
InstanceName	String	No	No	The name of an instance.	The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_), and hyphens (-). It must start with an uppercase letter, lowercase letter, or a Chinese character, and must not start with http:// or https://.
Description	String	No	No	The description of an instance.	The description must be 2 to 256 characters in length and must not start with http:// or https://.
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth of the public network, measured in Mbit/s.	Value range: 1 to 200.

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth of the public network, measured in Mbit/s.	Value range: 0 to 100.

Name	Type	Required	Editable	Description	Validity
HostName	String	No	No	The host name of an instance.	The name must not start or end with a period (.) or a hyphen (-) and must not contain consecutive periods (.) or hyphens (-). Windows instances: The host name must be 2 to 15 characters in length, including uppercase or lowercase letters, digits, and hyphens (-) and excluding periods (.). A host name must follow the predefined format (only using numbers is invalid). Linux instances and other instances: The host name must be 2 to 64 characters in length, including

Name	Type	Required	Editable	Description	Validity
ZoneId	String	No	No	The ID of the zone where the instance is located.	N/A
SystemDisk Category	String	No	No	The type of a system disk.	Valid values: cloud: indicates basic cloud disks. cloud_efficiency: indicates ultra cloud disks. cloud_ssd: Indicates SSD disks. ephemeral_ssd: indicates local SSD disks.
SystemDisk Size	Number	No	No	The capacity of a system disk, measured in GBs.	Value range: 20 to 500.

Name	Type	Required	Editable	Description	Validity
SystemDisk DiskName	String	No	No	The name of a system disk.	The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_), and hyphens (-). It must start with an uppercase letter, lowercase letter, or a Chinese character, and must not start with http:// or https://.
SystemDisk Description	String	No	No	The description of a system disk.	The description must be 2 to 256 characters in length and must not start with http:// or https://.

Name	Type	Required	Editable	Description	Validity
IoOptimized	String	No	No	Specifies whether an instance is I/O optimized.	Valid values: none: indicates that the instance is I/O optimized. : indicates that instance is not I/O optimized.
InternetChargeType	String	No	No	The network billing method.	Valid values: PayByBandwidth: indicates that the network is billed by bandwidth. PayByTraffic: indicates that the network is billed by traffic.
UserData	String	No	No	The custom data of an instance.	The data must be Base64-encoded. The upper limit of the raw data size is 16 KB.

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of a key pair.	For Windows instances, keep the default value of this parameter. This parameter is unspecified by default. Only your password is used to log on to your instance even if you have specified the KeyPairName parameter. If you specify this parameter for Linux instances, you cannot log on to the instances using the username and password.
RamRoleName	String	No	No	The RAM role of an instance.	N/A

Name	Type	Required	Editable	Description	Validity
AutoReleaseTime	String	No	No	The time scheduled for an instance to be automatically released.	The time format is yyyy-MM-ddTHH:mm:ssZ, which must use UTC and follow ISO 8601 standard.

Name	Type	Required	Editable	Description	Validity
SpotStrategy	String	No	No	The preemptive policy of a Pay-As-You-Go instance.	This policy only takes effect when the InstanceChargeType parameter of the API for creating an instance is set to PostPaid. Valid values: NoSpot: indicates a Pay-As-You-Go instance. SpotWithPriceLimit: indicates a preemptible instance with a preset upper price limit. SpotAsPriceGo: indicates an instance with the highest system-generated Pay-As-You-Go price.
SpotPriceLimit	String	No	No	The maximum price per hour of an instance.	The price is limited to 3 decimal places.

Name	Type	Required	Editable	Description	Validity
SecurityEnhancementStrategy	String	No	No	Specifies whether to enable the security enhancement feature.	Valid values: Active: indicates enabling the security enhancement feature. Deactive: indicates disabling the security enhancement feature.
DiskMappings	List	No	No	The list of data disks.	A list includes up to 16 data disks.
NetworkInterfaces	List	No	No	The list of elastic network interfaces (ENIs).	A list includes up to eight ENIs.
Tags	List	No	No	The list of tags for instances, security groups, disks, and ENIs.	A list includes up to 20 tags.
TemplateTags	List	No	No	The list of tags contained in an instance launch template.	A list can describe up to 20 tags.

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
```

```

    " SnapshotId " : String ,
    " Size " : String
    " Encrypted " : String ,
    " DeleteWith Instance " : String ,
  }
]

```

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Category	String	No	No	The type of a data disk.	Valid values: cloud: indicates basic cloud disks. cloud_effi ciency: indicates ultra cloud disks. cloud_ssd : indicates SSD disks. ephemeral_ ssd: indicates local SSD disks.

Name	Type	Required	Editable	Description	Validity
DiskName	String	No	No	The name of a data disk.	The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_), and hyphens (-). It must start with an uppercase letter, lowercase letter, or a Chinese character, and must not start with http:// or https://.
Description	String	No	No	The description of a data disk.	The description must be 2 to 256 characters in length and must not start with http:// or https://.
SnapshotId	String	No	No	The snapshot used for creating a data disk.	N/A

Name	Type	Required	Editable	Description	Validity
Size	String	No	No	The capacity of a system disk, measured in GBs.	Valid values: cloud: 5 to 2000. cloud_efficiency: 20 to 32768. cloud_ssd: 20 to 32768. ephemeral_ssd: 5 to 800.
Encrypted	Boolean	No	No	Specifies whether to encrypt a data disk.	N/A
DeleteWithInstance	Boolean	No	No	Specifies whether a data disk is released at the same time the instance is released.	N/A

NetworkInterfaces syntax

```
" NetworkInterfaces ": [
  {
    " PrimaryIpAddress ": String ,
    " VSwitchId ": String ,
    " SecurityGroupId ": String ,
    " NetworkInterfaceName ": String ,
    " Description ": String }
]
```

NetworkInterface properties

Name	Type	Required	Editable	Description	Validity
PrimaryIpAddress	String	No	No	The primary private IP address of an ENI.	N/A

Name	Type	Required	Editable	Description	Validity
VSwitchId	String	No	No	The ID of the VSwitch associated with the ENI.	N/A
SecurityGroupId	String	No	No	The ID of the security group associated with the ENI.	N/A
NetworkInterfaceName	String	No	No	The name of the ENI.	N/A
Description	String	No	No	The description of the ENI.	The description must be 2 to 256 characters in length and must not start with http:// or https://.

Tags syntax

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

Tag properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	N/A
Value	String	No	No	None	N/A

TemplateTag syntax

```
" TemplateTags ": [
  {
    " Value " : String ,
```

```

    " Key ": String
  }
]

```

TemplateTag properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	N/A
Value	String	No	No	None	N/A

Response elements

Fn::GetAtt

- **LaunchTemplateId**: indicates the ID of the template for launching ECS instances.
- **LaunchTemplateName**: indicates the name of the template for launching ECS instances.
- **DefaultVersionNumber**: indicates the default version of the template for launching ECS instances.
- **LatestVersionNumber**: indicates the latest version of template for launching ECS instances.

Example

```

{
  " ROSTemplat eFormatVer sion ": " 2015 - 09 - 01 ",
  " Resources ": {
    " Template1 ": {
      " Type ": " ALIYUN :: ECS :: LaunchTemp late ",
      " Properties ": {
        " LaunchTemp lateName ": " MyTemplate ",
        " VersionDes cription ": " Launch template with all
properties set ",
        " ImageId ": " m - 2ze9uqi7wo 6lhwep5q52 ",
        " InstanceTy pe ": " ecs . n4 . small ",
        " SecurityGr oupId ": " sg - 2ze8yxgemp cdsq3iucsi ",
        " NetworkTyp e ": " vpc ",
        " VSwitchId ": " vsw - 2zei67xd9n hcqxzec7qt 7 ",
        " InstanceNa me ": " InstanceNa me ",
        " Descriptio n ": " Descriptio n of template ",
        " InternetMa xBandwidth In ": 100 ,
        " InternetMa xBandwidth Out ": 200 ,
        " HostName ": " ttinfo ",
        " ZoneId ": " cn - beijing - a ",
        " SystemDisk Category ": " cloud_ssd ",
        " SystemDisk Size ": " 40 ",
        " SystemDisk DiskName ": " TheSystemD iskName ",
        " SystemDisk Descriptio n ": " The system disk
descriptio n ",
        " IoOptimize d ": " optimized ",
        " InternetCh argeType ": " PayByBandw idth ",
        " UserData ": " dGhpcyBpcy BhIHVzZXIgaZGF0YSBleG 1hcGxl ",
        " KeyPairNam e ": " ThisIsKeyP air ",

```

```

    "RamRoleName": "ThisIsRamRole",
    "AutoReleaseTime": "2050-10-01T00:00:00Z",
    "SpotStrategy": "SpotWithPriceLimit",
    "SpotPriceLimit": "100.001",
    "SecurityEnhancementStrategy": "Active",
    "DiskMappings": [
      {
        "Category": "cloud_ssd",
        "Size": 40,
        "SnapshotId": "s-2ze1fr2bipove27bn9mz",
        "Encrypted": true,
        "DiskName": "dataDisk1",
        "Description": "I am data disk 1",
        "DeleteWithInstance": true
      },
      {
        "Category": "cloud_efficiency",
        "Size": 20,
        "SnapshotId": "s-2ze4k0w8b33mlsqu4tl6",
        "Encrypted": false,
        "DiskName": "dataDisk2",
        "Description": "I am data disk 2",
        "DeleteWithInstance": true
      }
    ],
    "NetworkInterfaces": [
      {
        "PrimaryIpAddress": "10.10.1.1",
        "VSwitchId": "vsw-2zetgeiqlemyok9z5j2em",
        "SecurityGroupId": "sg-2ze8yxgempcdsq3iucsi",
        "NetworkInterfaceName": "my-eni1",
        "Description": "My eni 1"
      }
    ],
    "Tags": [
      {
        "Key": "key1",
        "Value": "value1"
      },
      {
        "Key": "key2",
        "Value": "value2"
      }
    ],
    "TemplateTags": [
      {
        "Key": "templateKey1",
        "Value": "templateValue1"
      },
      {
        "Key": "templateKey2",
        "Value": "templateValue2"
      }
    ]
  },
  "Outputs": {
    "LaunchTemplateId": {
      "Value": {"Fn::GetAtt": ["Template1", "LaunchTemplateId"]}
    },
    "LaunchTemplateName": {

```

```

    " Value ": {" Fn :: GetAtt ": [" Template1 "," LaunchTemp
lateName "]}
  },
  " DefaultVer sionNumber ": {
    " Value ": {" Fn :: GetAtt ": [" Template1 "," DefaultVer
sionNumber "]}
  },
  " LatestVers ionNumber ": {
    " Value ": {" Fn :: GetAtt ": [" Template1 "," LatestVers
ionNumber "]}
  }
}
}

```

3.11 ALIYUN::ECS::NatGateway

ALIYUN::ECS::NatGateway is used to create a NAT Gateway for a VPC.

Syntax

```

{
  " Type ": " ALIYUN :: ECS :: NatGateway ",
  " Properties ": {
    " VpcId ": String ,
    " Descriptio n ": String ,
    " NatGateway Name ": String ,
    " VSwitchId ": String ,
    " BandwidthP ackage ": List ,
    " Spec ": String
  }
}

```

Properties

Name	Type	Required	Description	Validity
VpcId	String	Yes	The ID of the VPC for which you want to create a NAT Gateway.	None
VSwitchId	String	Yes	The ID of the VSwitch in the VPC.	None
BandwidthP ackage	List	No	The list of bandwidth packages created for the NAT Gateway.	You can create a maximum of four bandwidth packages.

Name	Type	Required	Description	Validity
Description	String	No	The description of the NAT Gateway.	The description must be 2 to 256 characters in length. This parameter is empty by default.
NatGateway Name	String	No	The name of the NAT Gateway.	The name must be 2 to 128 characters in length and can contain letters, digits, underscores (_), periods (.), and hyphens (-). It must start with a letter.
Spec	String	No	The specifications of the NAT Gateway.	Valid values: Small, Middle, and Large.

BandwidthPackage syntax

```
" BandwidthPackage ": [
  {
    " Bandwidth ": Integer ,
    " ZoneId ": String ,
    " IpCount ": Integer
  }
]
```

BandwidthPackage properties

Name	Type	Required	Description	Validity
Bandwidth	Integer	No	The network bandwidth supported by the NAT Gateway.	Valid values: 5 to 5,000. Unit: Mbit/s. Default value: 5.

Name	Type	Required	Description	Validity
ZoneId	String	No	The ID of the zone where the NAT Gateway resides.	None
IpCount	Integer	No	The number of assigned public IP addresses.	Valid values: 1 to 5.

Response parameters

Fn::GetAtt

- **ForwardTableId**: the ID of the forwarding table.
- **SNatTableId**: the ID of the SNAT table.
- **NatGatewayId**: the unique ID of the NAT Gateway.
- **BandwidthPackageIds**: the list of IDs of all bandwidth packages.
- **BandwidthPackageIps**: the list of IP addresses included in all bandwidth packages.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "NatGateway": {
      "Type": "ALIYUN::ECS::NatGateway",
      "Properties": {
        "NatGatewayName": "nat_gateway_1",
        "Description": "my nat gateway",
        "VpcId": "vpc-25o8sqkwb",
        "VSwitchId": "vsw-25rcly5t9",
        "Spec": "Small",
        "BandwidthPackage": [
          {
            "IpCount": 1,
            "Bandwidth": 5,
            "ZoneId": "cn-beijing-c"
          },
          {
            "IpCount": 1,
            "Bandwidth": 5,
            "ZoneId": "cn-beijing-c"
          },
          {
            "IpCount": 1,
            "Bandwidth": 5,
            "ZoneId": "cn-beijing-c"
          },
          {
            "IpCount": 1,
            "Bandwidth": 5,
            "ZoneId": "cn-beijing-c"
          }
        ]
      }
    }
  }
}
```

```

        {
            " IpCount ": 1 ,
            " Bandwidth ": 5 ,
            " ZoneId ": " cn - beijing - c "
        }
    ]
}
},
" Outputs ": {
    " NatGateway Id ": {
        " Value ": {" Fn :: GetAttr ": [" NatGateway "," NatGateway
Id "]}
    },
    " BandwidthP ackageIds ": {
        " Value ": {" Fn :: GetAttr ": [" NatGateway "," BandwidthP
ackageIds "]}
    },
    " ForwardTab leId ": {
        " Value ": {" Fn :: GetAttr ": [" NatGateway "," ForwardTab
leId "]}
    },
    " SNatTableI d ": {
        " Value ": {" Fn :: GetAttr ": [" NatGateway ", " SNatTableI
d "]}
    }
}
}

```

3.12 ALIYUN::ECS::NetworkInterface

Creates an elastic network interface (ENI).

Syntax

```

{
    " Type ": " ALIYUN :: ECS :: NetworkInt erface ",
    " Properties ": {
        " SecurityGr oupId ": String ,
        " VSwitchId ": String ,
        " Descriptio n ": String ,
        " NetworkInt erfaceName ": String ,
        " PrimaryIpA ddress ": String
    }
}

```

}

Properties

Name	Type	Required	Editable	Description	Validity
SecurityGroupId	String	Yes	Yes	The ID of the security group associated with the ENI. The security group and the ENI must be in the same VPC.	N/A
VSwitchId	String	Yes	No	Specifies the ID of the VSwitch in the VPC.	N/A
Description	String	No	Yes	The description of the ENI. The description must be 2 to 256 characters in length and must not start with http:// or https://. This parameter is unspecified by default.	N/A

Name	Type	Required	Editable	Description	Validity
NetworkInterfaceName	String	No	Yes	The name of the ENI. The name must be 2 to 128 characters in length, including digits, colons (:), underscores (_), and hyphens (-). It must start with an uppercase letter, lowercase letter or a Chinese character and must not start with http:// or https://. This parameter is unspecified by default.	N/A

Name	Type	Required	Editable	Description	Validity
PrimaryIpAddress	String	No	No	The primary private IP address of the ENI. The specified IP address must be an unused address within the IP range of the virtual switch. If this parameter is unspecified, a random unused IP address is assigned to the VSwitch by default.	N/A

Response elements

FN:GetAtt

- **NetworkInterfaceId**: indicates the ID of the ENI.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Description": {
      "Type": "String",
      "Description": "Description of your ENI. It is a string of [ 2 , 256 ] English or Chinese characters."
    },
    "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 VSwitch. If no IP addresses are specified, a random network ID is assigned for the ENI.",
    },
  },
  "Resources": {
    "EniInstance": {
      "Type": "ALIYUN::ECS::NetworkInterface",
      "Properties": {
        "Description": {
          "Ref": "Description"
        },
        "SecurityGroupId": {
          "Ref": "SecurityGroupId"
        },
        "VSwitchId": {
          "Ref": "VSwitchId"
        },
        "NetworkInterfaceName": {
          "Ref": "NetworkInterfaceName"
        },
        "PrimaryIpAddress": {
          "Ref": "PrimaryIpAddress"
        }
      }
    }
  },
  "Outputs": {
    "NetworkInterfaceId": {
      "Description": "ID of your Network Interface.",
      "Value": {
        "Fn::GetAtt": [
          "EniInstance",
          "NetworkInterfaceId"
        ]
      }
    }
  }
}

```

3.13 ALIYUN::ECS::NetworkInterfaceAttachment

Attaches an ENI to a VPC-connected instance.

Syntax

```

{
  "Type": "ALIYUN::ECS::NetworkInterfaceAttachment",
  "Properties": {

```

```

    " InstanceId ": String ,
    " NetworkInt  erfaceId ": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
InstanceId	String	Yes	No	The ID of the instance	N/A
NetworkInt erfaceId	String	Yes	No	The ID of the ENI to be attached to the instance	N/A

Response elements

Fn::GetAtt

- **NetworkInterfaceId**: indicates the ID of the ENI attached to the instance.

Example

```

{
  " ROSTemplat eFormatVer sion ": " 2015 - 09 - 01 ",
  " Parameters ": {
    " InstanceId ": {
      " Type ": " String ",
      " Descriptio n ": " ECS   instance   id "
    },
    " NetworkInt  erfaceId ": {
      " Type ": " String ",
      " Descriptio n ": " Network   interface   id "
    }
  },
  " Resources ": {
    " EniAttachm ent ": {
      " Type ": " ALIYUN :: ECS :: NetworkInt  erfaceAtta chment ",
      " Properties ": {
        " InstanceId ": {
          " Ref ": " InstanceId "
        },
        " NetworkInt  erfaceId ": {
          " Ref ": " NetworkInt  erfaceId "
        }
      }
    }
  },
  " Outputs ": {
    " NetworkInt  erfaceId ": {
      " Descriptio n ": " ID   of   your   Network   Interface .",
      " Value ": {
        " Fn :: GetAtt ": [
          " EniAttachm ent ",
          " NetworkInt  erfaceId "
        ]
      }
    }
  }
}

```

```

    }
  }
}

```

3.14 ALIYUN::ECS::NetworkInterfacePermission

Grants an account the permission to attach an elastic network interface (ENI) to an instance.

Syntax

```

{
  " Type ": " ALIYUN :: ECS :: NetworkInt  erfacePerm  ission ",
  " Properties ": {
    " NetworkInt  erfaceId ": String ,
    " AccountId ": String ,
    " Permission ": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
NetworkInt erfaceId	String	Yes	No	The ENI ID.	N/A
AccountId	String	Yes	No	The user account ID.	N/A
Permission	String	Yes	No	Grants an account the permission to attach the ENI to an instance.	N/A

Response elements

FN::GetAtt

- **NetworkInterfacePermissionId**: indicates the permission ID for attaching the ENI to an instance.

Example

```

{
  " ROSTemplat  eFormatVer  sion ": " 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",
      ],
    },
  },
},
}

```

3.15 ALIYUN::ECS::PrepayInstance

Creates ECS instances that are billed using the subscription method.

Syntax

```

{
  "Type": "ALIYUN::ECS::PrepayInstance",
  "Properties": {
    "PeriodType": String,
    "DedicatedHostId": String,
    "RamRoleName": String,
    "IoOptimized": Boolean,
    "InternetChargeType": String,
    "PrivateIpAddress": String,
    "KeyPairName": String,
    "SystemDisk.DiskName": String,
    "PeriodUnit": String,
    "Description": String,
  },
}

```

```

    " Tags ": List ,
    " MinAmount ": Integer ,
    " HostName ": String ,
    " AutoRenewP eriod ": Number ,
    " ImageId ": String ,
    " AutoRenew ": Boolean ,
    " InstanceCh argeType ": String ,
    " VSwitchId ": String ,
    " Password ": String ,
    " InstanceTy pe ": String ,
    " MaxAmount ": Integer ,
    " SystemDisk Category ": String ,
    " SystemDisk Size ": Number ,
    " ZoneId ": String ,
    " InternetMa xBandwidth Out ": Integer ,
    " VpcId ": String ,
    " InstanceNa me ": String ,
    " InternetMa xBandwidth In ": Integer ,
    " UserData ": String ,
    " SecurityGr oupId ": String ,
    " Period ": Number ,
    " AllocatePu blicIP ": Boolean ,
    " SystemDisk Descriptio n ": String ,
    " DiskMappin gs ": List
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
PeriodType	String	Yes	No	The billing cycle.	Valid values : Monthly Yearly
DedicatedHostId	String	No	No	Specifies whether to create ECS instances that run on a dedicated host (DDH). If yes, specify the ID of the DDH where the ECS instances are to be created.	N/A

Name	Type	Required	Editable	Description	Validity
RamRoleName	String	No	No	The RAM role of an instance. You can query the RAM role of an instance by calling the <code>ListRoles</code> API. See CreateRole and ListRoles .	N/A
IoOptimized	Boolean	No	No	Whether an instance is I/O-optimized. For phased-out instance types , the default value is none. For other instance types, the default value is optimized.	Valid values: · none: indicates that the instance is not I/O-optimized. · optimized: indicates that the instance is I/O-optimized.

Name	Type	Required	Editable	Description	Validity
InternetChargeType	String	No	No	The network billing method. Default value: PayByBandwidth.	Valid values: - PayByBandwidth: The network service is billed by fixed bandwidth. - PayByTraffic: The network service is billed by network traffic.
PrivateIpAddress	String	No	No	The private IP address of an ECS instance. The private IP address must be a subnet of the CIDR block of the <code>VSwitchId</code> and cannot be specified separately.	N/A

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of the key pair associated with an ECS instance. - This parameter is unspecified by default. For Windows instances, the KeyPairName parameter is inapplicable. Even if you specify the KeyPairName parameter, you still need to specify the <code>Password</code> parameter to log on to an instance. - For Linux instances, the KeyPairName is a primary logon method	N/A
Issue: 20190422				. If you specify the KeyPairName	163

Name	Type	Required	Editable	Description	Validity
SystemDisk DiskName	String	No	No	The system disk name.	N/A

Name	Type	Required	Editable	Description	Validity
PeriodUnit	String	No	No	The subscription period. When the <code>PeriodUnit</code> parameter is set to <code>Week</code> : - Valid values for Period: 1 2 3 4. - Valid values for AutoRenewPeriod: 1 2 3. When the <code>PeriodUnit</code> parameter is set to <code>Month</code> : - Valid values for Period: 1 2 3 4 5 6 7 8 9 12 24 36 48 60. - Valid values for AutoRenewPeriod: 1 2 3 6 12. Default value: Month.	Valid values : Week Month.

Name	Type	Required	Editable	Description	Validity
Description	String	No	No	The instance description. The description must be 2 to 256 characters in length. This parameter is unspecified by default.	N/A
Tags	List	No	No	The custom tags.	You can define up to 20 tags.
MinAmount	Integer	Yes	No	The minimum number of instances to be created. Default value: 1.	Value range: 1 to 100.

Name	Type	Required	Editable	Description	Validity
HostName	String	No	No	The hostname of an ECS instance. • The name cannot start or end with a period (.) or a hyphen (-) and cannot contain consecutive periods (.) or hyphens (-). • For Windows instances, the hostname must be 2 to 15 characters in length, including uppercase or lowercase letters, digits, and hyphens (-), and excluding periods (.). A hostname must follow the predefined format	N/A

Name	Type	Required	Editable	Description	Validity
AutoRenewPeriod	Number	No	No	The automatic renewal period you select to extend your subscription. This parameter is mandatory if the <code>AutoRenew</code> parameter is set to <code>True</code> .	Valid values : 1 2 3 6 12.
ImageId	String	Yes	Yes	The ID of the image used to launch the instance. You can check the available images by calling the DescribeImages function. If you need to use images from the Marketplace, you can view ImageId at the project landing page.	N/A

Name	Type	Required	Editable	Description	Validity
AutoRenew	Boolean	No	No	Specifies whether the automatic renewal feature is enabled for an instance. The automatic renewal feature is enabled only when the <code>InstanceChargeType</code> parameter is set to <code>Prepaid</code>. Valid values: · True: indicates that the automatic renewal feature is enabled. · False: indicates that the automatic renewal feature is disabled. Default value: False.	N/A

Name	Type	Required	Editable	Description	Validity
InstanceChargeType	String	No	No	The billing method of an instance.	Valid values: - PrePaid: indicates the subscription billing method. In this case, the service is billed on a yearly or monthly basis. You must ensure the balance of your account or credit balance can cover the cost of the subscription. Otherwise, you will receive an <code>InvalidPaymentMethod</code> error code. - PostPaid: indicates the Pay-As-You-Go billing method. In this case, the service is billed by the amount of

Name	Type	Required	Editable	Description	Validity
VSwitchId	String	No	No	The VSwitch ID must be specified when you create a VPC-connected instance.	N/A
Password	String	No	No	The password used to log on to an instance . The password must be 8 to 30 characters in length and contain at least an uppercase letter, lowercase letter, digit, and special character . The password can contain any of the following characters : () ` ~ ! @ # \$ % ^ & * - + = { } [] ; ' & lt ; > , . ? / . The password for Windows instances cannot start with a slash (/).	N/A

Name	Type	Required	Editable	Description	Validity
InstanceType	String	Yes	No	The instance type. For more information, see ECS instance families . You can also view details about the latest instance types by calling the DescribeInstanceTypes API.	N/A
MaxAmount	Integer	Yes	No	The maximum number of instances to be created.	Value range: 1 to 100.

Name	Type	Required	Editable	Description	Validity
SystemDisk Category	String	No	No	The system disk type. For phased-out instances which are I/O optimized, the default value is cloud. For more instances, the default value is cloud_efficiency.	Valid values: · cloud: indicates basic cloud disks. · cloud_efficiency: indicates ultra cloud disks. · cloud_ssd : indicates SSD disks · ephemeral_ssd: indicates local SSD disks.
SystemDisk Size	Number	Yes	No	The system disk size, measured in GB. This parameter must be set to a value smaller than or equal to max{20, ImageSize}. Default value: max{40, ImageSize}.	Value range: 20 to 500.

Name	Type	Required	Editable	Description	Validity
ZoneId	String	No	No	The ID of a zone to which an instance is assigned. See DescribeZones for the list of available zones. This parameter is unspecified by default, indicating that the zone is allocated by the system.	N/A

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth of the public network, measured in Mbit/s.	For instances billed by fixed bandwidth, the value of this parameter ranges from 0 to 200. The default value is 0. For instances billed by network traffic, the value of this parameter ranges from 1 to 200. This parameter must be specified.
VpcId	String	No	No	The VPC ID.	N/A
InstanceName	String	No	No	The instance name.	The name must be 128 characters in length, including letters, Chinese characters, digits, underscores (_), periods (.) and hyphens (-).

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth of the public network, measured in Mbit/s. Default value: 200.	Value range: 1 to 200.
UserData	String	No	No	The user data you need to enter when you create an ECS instance.	The user data is limited to 16 KB and needs to be converted into Base64-encoded strings. If the data contains special characters, put a backslash (\) immediate before each special character for these characters to be translated into regular texts.

Name	Type	Required	Editable	Description	Validity
SecurityGroupId	String	No	No	The ID of the security group associated with the instances to be created . Instances associated with the same security group are permitted to access each other.	N/A

Name	Type	Required	Editable	Description	Validity
Period	Number	Yes	No	The subscription period of an instance, measured in months. This parameter is valid and mandatory only when <code>InstanceChargeType</code> is set to <code>PrePaid</code>. If <code>DedicatedHostId</code> is specified, the subscription period of the instance must be shorter than the subscription period of DDH.	Valid values: - Valid values for the Period parameter when <code>PeriodUnit</code> = Week : 1 2 3 4. - Valid values for the Period parameter when <code>PeriodUnit</code> = Month : 1 2 3 4 5 6 7 8 9 12 24 36 48 60.

Name	Type	Required	Editable	Description	Validity
AllocatePublicIP	Boolean	No	No	Specifies whether a public IP address is allocated to an instance. If <code>InternetMaxBandwidthOut</code> is set to 0, no public IP address is allocated to an instance. Default value: True.	N/A
SystemDiskDescription	String	No	No	The system disk description.	N/A
DiskMappings	List	No	No	Specifies the disks to be attached to an instance.	A maximum of 16 disks can be attached to an instance.

Tags syntax

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

Tags properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	N/A
Value	String	No	No	None	N/A

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String
  }
]
```

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Category	String	No	No	The data disk type.	Valid values: cloud cloud_efficiency cloud_ssd ephemeral_ssd. Default value: cloud_efficiency.
DiskName	String	No	No	The data disk name.	The name can contain up to 128 characters, including letters, Chinese characters, digits, underscores (_), periods (.), and hyphens (-).
Description	String	No	No	The description of a data disk.	Value range: 2 to 256. This parameter is unspecified by default.

Name	Type	Required	Editable	Description	Validity
Device	String	No	No	Specifies the device name of a data disk.	If this parameter is unspecified, the system automatically allocates a device name according to the default order from /dev/xvdb to /dev/xvdz.
SnapshotId	String	No	No	The snapshot used to create a data disk.	N/A
Size	String	Yes	No	The data disk size, measured in GB.	N/A

Response elements

FN::GetAtt

- **OrderId:** indicates the ID of the order.
- **InnerIps:** indicates the list of private IP addresses for instances connected to the classic network. This parameter is only applicable when the `NetworkType` parameter is set to Classic.
- **PrivateIps:** indicates the list of private IP addresses for VPC-connected instances. This parameter is only applicable when the `NetworkType` parameter is set to VPC.
- **ZoneIds:** indicates the list of available zone IDs.
- **PublicIps:** indicates the public IP addresses for instances connected to the classic network. This parameter is only applicable when the `NetworkType` parameter is set to Classic.

- **HostNames:** indicates the list of hostnames. **RelatedOrderIds:** indicates the list of relevant order IDs.
- **InstanceIds:** indicates the list of instance IDs. It is a globally unique identifier (GUID) generated by the system for an instance.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances.",
      "AllowedValues": [
        "Monthly",
        "Yearly"
      ]
    },
    "DedicatedHostId": {
      "Type": "String",
      "Description": "which dedicated host will be deployed"
    },
    "PrivateIpAddress": {
      "Type": "String",
      "Description": "Private IP for the instance created. Only works for VPC instance and cannot duplicated with existing instance."
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the instance, [ 2, 256 ] characters. Do not fill or empty, the default is empty."
    },
    "DiskMappings": {
      "Type": "CommaDelimitedList",
      "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
    },
    "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,
      "MaxValue": 500
    },
    "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 ."
  },
  "SystemDisk Descriptio n ": {
    " Type ": " String ",
    " Descriptio n ": " Descriptio n   of   created   system
disk ."
  },
  " InstanceCh argeType ": {
    " Type ": " String ",
    " Descriptio n ": " 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 .",
    " AllowedVal ues ": [
      " PrePaid ",
      " PostPaid "
    ],
    " Default ": " PostPaid "
  },
  " AutoRenew ": {
    " Type ": " Boolean ",
    " Descriptio n ": " Auto   renew   the   prepay   instance .
If the period type is by year , it will renew by
year , else it will renew by month .",
    " AllowedVal ues ": [
      " True ",
      " true ",
      " False ",
      " false "
    ],
    " Default ": false
  },
  " MaxAmount ": {
    " Type ": " Number ",
    " Descriptio n ": " Max   number   of   instances   to   create
, should be smaller than ' MaxAmount ' and smaller than
100 .",
    " MinValue ": 1 ,
    " MaxValue ": 100
  },
  " RamRoleNam e ": {
    " Type ": " String ",
    " Descriptio n ": " Instance   RAM   role   name . The
name is provided and maintained by Resource Access
Management ( RAM ) and can be queried using ListRoles .
For more informatio n , see RAM API CreateRole and
ListRoles ."
  },
  " MinAmount ": {
    " Type ": " Number ",
    " Descriptio n ": " Max   number   of   instances   to   create
, should be bigger than ' MinAmount ' and smaller than
100 .",
    " MinValue ": 1 ,
    " MaxValue ": 100 ,
    " Default ": 1
  },
  " ImageId ": {
    " Type ": " String ",
    " Descriptio n ": " Image   ID   to   create   ecs   instance
."
  }
}

```

```

    },
    "SystemDisk DiskName ": {
      "Type ": "String ",
      "Description ": "Name of created system disk ."
    },
    "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 InternetMaxBandwidth Out set to 0 , it will
not assign public ip .",
      "AllowedValues ": [
        "True ",
        "true ",
        "False ",
        "false "
      ],
      "Default ": true
    },
    "Tags ": {
      "Type ": "CommaDelimitedList ",
      "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
    },
    "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 ."
    },
    "Password ": {
      "Type ": "String ",
      "Description ": "Password of created ecs instance .
Must contain at least 3 types of special character ,
lower character , upper 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 .",
      "AllowedValues ": [
        1 ,
        2 ,
        3 ,
        6 ,
        12
      ]
    }
  }
}

```

```

    ],
    "Default ": 1
  },
  "KeyPairName ": {
    "Type ": "String ",
    "Description ": "SSH key pair name ."
  },
  "IoOptimized ": {
    "Type ": "Boolean ",
    "Description ": "The ' optimized ' instance can
provide better IO performance . Support true or false
, Default is true .",
    "AllowedValues ": [
      "True ",
      "true ",
      "False ",
      "false "
    ],
    "Default ": true
  },
  "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 ."
  },
  "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
  },
  "InternetChargeType ": {
    "Type ": "String ",
    "Description ": "Instance internet access charge
type . Support ' PayByBandwidth ' and ' PayByTraffic ' only
. For AfterPay instance , default is ' PayByBandwidth ' .",
    "AllowedValues ": [
      "PayByBandwidth ",
      "PayByTraffic "
    ],
    "Default ": " PayByBandwidth "
  },
  "SystemDiskCategory ": {
    "Type ": "String ",
    "Description ": "Category of system disk . Default
is cloud_efficiency . support cloud | cloud_efficiency |
cloud_ssd | ephemeral_ssd ",
    "AllowedValues ": [
      "cloud ",

```

```

        " cloud_efficiency ",
        " cloud_ssd ",
        " ephemeral_ssd "
    ],
    " Default ": " cloud_efficiency "
},
" 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 ' . ', ' - '"
},
" InternetMaxBandwidth Out ": {
    " Type ": " Number ",
    " 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.",
    " MinValue ": 0 ,
    " MaxValue ": 200 ,
    " Default ": 1
},
" VpcId ": {
    " Type ": " String ",
    " Description ": " The VPC id to create ecs
instance ."
},
" InternetMaxBandwidth In ": {
    " 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
},
" PeriodUnit ": {
    " Type ": " String ",
    " Description ": " Unit of prepaid time period, it
could be Week / Month. Default value is Month .",
    " AllowedValues ": [
        " Week ",
        " Month "
    ],
    " Default ": " Month "
}
},
" Resources ": {
    " PrepayInstance ": {
        " Type ": " ALIYUN :: ECS :: PrepayInstance ",
        " Properties ": {
            " PeriodType ": {
                " Ref ": " PeriodType "
            },
            " DedicatedHostId ": {
                " Ref ": " DedicatedHostId "
            },
            " PrivateIpAddress ": {
                " Ref ": " PrivateIpAddress "
            },
            " Description ": {
                " Ref ": " Description "
            },
        },
    },

```

```

    "DiskMappings": {
      "Fn::Split": [
        ",",
        {
          "Ref": "DiskMappings"
        },
        {
          "Ref": "DiskMappings"
        }
      ]
    },
    "SystemDiskSize": {
      "Ref": "SystemDiskSize"
    },
    "UserData": {
      "Ref": "UserData"
    },
    "SystemDiskDescription": {
      "Ref": "SystemDiskDescription"
    },
    "InstanceChargeType": {
      "Ref": "InstanceChargeType"
    },
    "AutoRenew": {
      "Ref": "AutoRenew"
    },
    "MaxAmount": {
      "Ref": "MaxAmount"
    },
    "RamRoleName": {
      "Ref": "RamRoleName"
    },
    "MinAmount": {
      "Ref": "MinAmount"
    },
    "ImageId": {
      "Ref": "ImageId"
    },
    "SystemDiskDiskName": {
      "Ref": "SystemDiskDiskName"
    },
    "InstanceType": {
      "Ref": "InstanceType"
    },
    "AllocatePublicIP": {
      "Ref": "AllocatePublicIP"
    },
    "Tags": {
      "Fn::Split": [
        ",",
        {
          "Ref": "Tags"
        },
        {
          "Ref": "Tags"
        }
      ]
    },
    "HostName": {
      "Ref": "HostName"
    },
    "Password": {
      "Ref": "Password"
    },
  },

```

```

    "AutoRenewPeriod": {
      "Ref": "AutoRenewPeriod"
    },
    "KeyPairName": {
      "Ref": "KeyPairName"
    },
    "IoOptimized": {
      "Ref": "IoOptimized"
    },
    "ZoneId": {
      "Ref": "ZoneId"
    },
    "VSwitchId": {
      "Ref": "VSwitchId"
    },
    "SecurityGroupId": {
      "Ref": "SecurityGroupId"
    },
    "Period": {
      "Ref": "Period"
    },
    "InternetChargeType": {
      "Ref": "InternetChargeType"
    },
    "SystemDiskCategory": {
      "Ref": "SystemDiskCategory"
    },
    "InstanceName": {
      "Ref": "InstanceName"
    },
    "InternetMaxBandwidthOut": {
      "Ref": "InternetMaxBandwidthOut"
    },
    "VpcId": {
      "Ref": "VpcId"
    },
    "InternetMaxBandwidthIn": {
      "Ref": "InternetMaxBandwidthIn"
    },
    "PeriodUnit": {
      "Ref": "PeriodUnit"
    }
  },
  "Outputs": {
    "PublicIps": {
      "Description": "Public IP address list of created ecs instance.",
      "Value": {
        "Fn::GetAtt": [
          "PrepayInstance",
          "PublicIps"
        ]
      }
    },
    "RelatedOrderIds": {
      "Description": "The related order id list of created ecs instances",
      "Value": {
        "Fn::GetAtt": [
          "PrepayInstance",
          "RelatedOrderIds"
        ]
      }
    }
  }
}

```

```

    }
  },
  "PrivateIps ": {
    "Description ": " Private IP address list of
created ecs instance . Only for VPC instance .",
    "Value ": {
      "Fn :: GetAtt ": [
        " PrepayInst ance ",
        " PrivateIps "
      ]
    }
  },
  "HostNames ": {
    "Description ": " Host names of created instance .",
    "Value ": {
      "Fn :: GetAtt ": [
        " PrepayInst ance ",
        " HostNames "
      ]
    }
  },
  "InnerIps ": {
    "Description ": " Inner IP address list of the
specified instance . Only for classical instance .",
    "Value ": {
      "Fn :: GetAtt ": [
        " PrepayInst ance ",
        " InnerIps "
      ]
    }
  },
  "ZoneIds ": {
    "Description ": " Zone id of created instance .",
    "Value ": {
      "Fn :: GetAtt ": [
        " PrepayInst ance ",
        " ZoneIds "
      ]
    }
  },
  "OrderId ": {
    "Description ": " The order id list of created
instance .",
    "Value ": {
      "Fn :: GetAtt ": [
        " PrepayInst ance ",
        " OrderId "
      ]
    }
  },
  "InstanceId s ": {
    "Description ": " The instance id list of created
ecs instance ",
    "Value ": {
      "Fn :: GetAtt ": [
        " PrepayInst ance ",
        " InstanceId s "
      ]
    }
  }
}

```

```
}
```

3.16 ALIYUN::ECS::PrepayInstanceGroupClone

Clones a group of ECS instances that use the subscription billing method.

Syntax

```
{
  "Type": "ALIYUN::ECS::PrepayInstanceGroupClone",
  "Properties": {
    "PeriodType": String,
    "SystemDiskCategory": String,
    "RamRoleName": String,
    "KeyPairName": String,
    "SystemDiskDiskName": String,
    "PeriodUnit": String,
    "Description": String,
    "Tags": List,
    "MinAmount": Integer,
    "AutoRenewPeriod": Number,
    "ImageId": String,
    "AutoRenew": String,
    "SourceInstanceId": String,
    "EniMappings": List,
    "Password": String,
    "MaxAmount": Integer,
    "DiskMappings": List,
    "LaunchTemplate": String,
    "LaunchTemplateVersion": String,
    "ZoneId": String,
    "InternetMaxBandwidthOut": String,
    "InstanceName": String,
    "InternetMaxBandwidthIn": Integer,
    "SecurityGroupId": String,
    "LaunchTemplateId": String,
    "Period": Number,
    "SystemDiskDescription": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
PeriodType	String	Yes	No	The subscription cycle.	Valid values: Monthly Yearly.

Name	Type	Required	Editable	Description	Validity
SystemDiskCategory	String	No	Yes	The system disk type.	Valid values : cloud cloud_efficiency cloud_ssd ephemeral_ssd. Default value: cloud_efficiency.
RamRoleName	String	No	No	The RAM role of an instance.	You can view the RAM role of an instance by calling the <code>ListRoles</code> API. For more information, see CreateRole and ListRoles .

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	Yes	The name of the key pair associated with an ECS instance. Default value: empty. For Windows instances, the KeyPairName parameter is inapplicable. Even if you specify the KeyPairName parameter, you are still required to specify the Password parameter to log on to an instance. For Linux instances, the KeyPairName is a primary logon method. If you specify the KeyPairName parameter, you cannot log on to an instance using the username and password.	N/A
					Issue: 20190422

Name	Type	Required	Editable	Description	Validity
SystemDisk DiskName	String	No	Yes	The system disk name.	N/A
PeriodUnit	String	No	Yes	The unit of the billing cycle.	Valid values : Week Month. Default value: Month.
Description	String	No	No	The instance description.	The description can be up to 256 characters in length.
Tags	List	No	Yes	The custom tags.	A maximum of four tags are supported. The format is [{"Key": "tagKey", "Value": "tagValue"}, {"Key": "tagKey2", "Value": "tagValue2"}].
MinAmount	Integer	Yes	No	Specifies the minimum number of ECS instances to be created.	Value range: 1 to 100. The MinAmount parameter must be set to a value smaller than or equal to the value of MaxAmount.

Name	Type	Required	Editable	Description	Validity
AutoRenewPeriod	Number	No	Yes	The period the subscription is automatically extended by after an instance expires.	Valid values : 1 2 3 6 12. Default value: 1.
ImageId	String	No	Yes	The ID of the image used to launch ECS instances . You can use public images, custom images and Alibaba Cloud Marketplace images.	N/A
AutoRenew	String	No	Yes	Specifies whether the automatic renewal feature is enabled for an instance.	Valid values : True False . Default value: False.

Name	Type	Required	Editable	Description	Validity
SourceInstanceId	String	Yes	No	The ID of the source ECS instance you want to clone.	When the source instance is cloned, its type, image file, network bandwidth billing method, bandwidth limit, and network type are cloned. If the source ECS instance is added to more than one security group, the new ECS instance is automatically added to the first security group that the source instance joined.
EniMappings	List	No	Yes	The elastic network interface (ENI) attached to an instance.	You can only attach one ENI to an instance.

Name	Type	Required	Editable	Description	Validity
Password	String	No	Yes	The password used to log on to an ECS instance.	The password must be 8 to 30 characters in length and must contain at least an uppercase letter, lowercase letter, digit, and special character . The password can contain any of the following characters: () ` ~ ! @ # \$ % ^ & * - + = { } [] : ; ' < > , . ? / . If the Password parameter is specified in the API request, make sure that you use the HTTPS protocol to secure the API call.

Name	Type	Required	Editable	Description	Validity
MaxAmount	Integer	Yes	No	Specifies the maximum number of ECS instances to be created.	Value range: 1 to 100. The MaxAmount parameter must be set to a value equal to or greater than the value of MinAmount.
DiskMappings	List	No	Yes	Specifies the disks to be attached to an instance.	A maximum of 16 disks can be attached to an instance.
LaunchTemplateName	String	No	No	The name of the launch template for an instance.	N/A
LaunchTemplateVersion	String	No	Yes	The version of the launch template for an instance . If you do not specify a particular version, the default version is used.	N/A
ZoneId	String	No	No	The ID of the zone to which an instance is assigned.	N/A

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthOut	String	No	No	The maximum outbound bandwidth of the public network, measured in Mbit/s.	The value range is from 0 to 200 if the Internet service is billed by fixed bandwidth. The value range is from 1 to 200 if the Internet service is billed by network traffic. This parameter is required.
InstanceName	String	No	No	The instance name.	The name can be up to 128 characters , and can contain letters, Chinese characters , digits, underscores (_), periods (.), and hyphens (-).

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth of the public network, measured in Mbit/s. Default value: 200.	Value range: 1 to 200.
SecurityGroupId	String	No	No	The ID of the security group associated with the instance to be created.	N/A
LaunchTemplateId	String	No	Yes	The ID of the launch template for an instance.	N/A
Period	Number	Yes	No	The subscription period.	Value range: 1 to 9. · The value range is from 1 to 9 if the service is billed on a monthly basis. · The value range is from 1 to 3 if the service is billed on a yearly basis.

Name	Type	Required	Editable	Description	Validity
SystemDiskDescription	String	No	Yes	The system disk description.	N/A

Tags syntax

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

Tags properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	N/A
Value	String	No	No	None	N/A

EniMappings syntax

```
" EniMapping s ": [  
  {  
    " SecurityGroupID ": String ,  
    " VSwitchId ": String ,  
    " Description ": String ,  
    " NetworkInterfaceName ": String ,  
    " PrimaryIpAddress ": String  
  }  
]
```

]

EniMappings properties

Name	Type	Required	Editable	Description	Validity
SecurityGroupId	String	Yes	Yes	The security group ID. The security group and the ENI associated with the security group must be connected to the same VPC.	N/A
VSwitchId	String	Yes	No	The VSwitch ID.	N/A
Description	String	No	Yes	The ENI description.	N/A
NetworkInterfaceName	String	No	Yes	The ENI name.	N/A

Name	Type	Required	Editable	Description	Validity
PrimaryIpAddress	String	No	No	The primary IP address of an instance . The specified IP address must share the same host ID with the VSwitch . If this parameter is unspecified, a random network ID is automatically assigned by the system to the ENI.	N/A

DiskMappings syntax

```
" DiskMappings ": [
  {
    " Category ": String ,
    " DiskName ": String ,
    " Description ": String ,
    " Device ": String ,
    " SnapshotId ": String ,
    " Size ": String
  }
]
```

]

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Category	String	No	No	The data disk type.	Valid values : cloud cloud_efficiency cloud_ssd ephemeral_ssd. Default value: cloud_efficiency.
DiskName	String	No	No	The data disk name.	The name can be up to 128 characters in length, including letters, Chinese characters, digits, underscores (-), periods (.), and hyphens (_).
Description	String	No	No	The data disk description.	Value range : 2 to 256 . Default value: empty .
Device	String	No	No	Specifies the device name of the data disk attached to an ECS instance.	Example: /dev/xvd[a-z].

Name	Type	Required	Editable	Description	Validity
Snapshotid	String	No	No	The ID of the snapshot used to create a data disk.	N/A
Size	String	Yes	No	The capacity of a data disk, measured in GB.	N/A

Response elements

FN::GetAtt

- **OrderId:** indicates the order ID.
- **InnerIps:** indicates the list of the private IP addresses of instances connected to the classic network.
- **PrivateIps:** indicates the list of private IP addresses of VPC-connected instances.
- **ZoneIds:** indicates the list of available zones.
- **PublicIps:** indicates the public IP addresses of instances that are connected to the classic network.
- **HostNames:** indicates the list of hostnames.
- **RelatedOrderIds:** indicates the list of relevant order IDs.
- **InstanceIds:** indicates the list of instance IDs.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances.",
      "AllowedValues": [
        "Monthly",
        "Yearly"
      ]
    },
    "Description": {
      "Type": "String",
      "Description": "Description of the instance, [ 2, 256 ] characters. Do not fill or empty, the default is empty."
    }
  },
```

```

    "DiskMappings": {
      "Type": "CommaDelimitedList",
      "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
    },
    "SystemDiskDescription": {
      "Type": "String",
      "Description": "Description of created system disk. Old instances will not be changed."
    },
    "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. Old instances will not be changed.",
      "AllowedValues": [
        "True",
        "False"
      ],
      "Default": "False"
    },
    "SourceInstanceId": {
      "Type": "String",
      "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."
    },
    "MaxAmount": {
      "Type": "Number",
      "Description": "Max number of instances to create, should be smaller than 'MaxAmount' and smaller than 100.",
      "MinValue": 1,
      "MaxValue": 100
    },
    "RamRoleName": {
      "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."
    },
    "MinAmount": {
      "Type": "Number",
      "Description": "Max number of instances to create, should be bigger than 'MinAmount' and smaller than 100."
    }
  }

```

```

    " MinValue ": 1 ,
    " MaxValue ": 100 ,
    " Default ": 1
  },
  " ImageId ": {
    " Type ": " String ",
    " Descriptio n ": " Image ID to create ecs instance
."
  },
  " SystemDisk DiskName ": {
    " Type ": " String ",
    " Descriptio n ": " Name of created system disk . Old
instances will not be changed ."
  },
  " Tags ": {
    " Type ": " CommaDelim itedList ",
    " Descriptio n ": " 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
  },
  " Password ": {
    " Type ": " String ",
    " Descriptio n ": " Password of created ecs instance .
Must contain at least 3 types of special character ,
lower character , upper character , number ."
  },
  " AutoRenewP eriod ": {
    " Type ": " Number ",
    " Descriptio n ": " The time period of auto renew
. When the parameter InstanceCh argeType is PrePaid ,
it will take effect . It could be 1 , 2 , 3 , 6 , 12
. Default value is 1 . Old instances will not be
changed .",
    " AllowedVal ues ": [
      1 ,
      2 ,
      3 ,
      6 ,
      12
    ],
    " Default ": 1
  },
  " KeyPairNam e ": {
    " Type ": " String ",
    " Descriptio n ": " SSH key pair name . Old instances
will not be changed ."
  },
  " LaunchTemp lateName ": {
    " Type ": " String ",
    " Descriptio n ": " Name of launch template . Launch
template id or name must be specified to use launch
template "
  },
  " ZoneId ": {
    " Type ": " String ",
    " Descriptio n ": " current zone to create the
instance ."
  },
  " SecurityGr oupId ": {
    " Type ": " String ",
    " Descriptio n ": " 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 ."
  },
  "Period ": {
    " Type ": " Number ",
    " Descriptio n ": " 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
  },
  "LaunchTemp lateId ": {
    " Type ": " String ",
    " Descriptio n ": " ID of launch template . Launch
    template id or name must be specified to use launch
    template "
  },
  "SystemDisk Category ": {
    " Type ": " String ",
    " Descriptio n ": " Category of system disk . Default
    is cloud_effi ciency . support cloud | cloud_effi ciency
    | cloud_ssd | ephemeral_ ssd . Old instances will not be
    changed .",
    " AllowedVal ues ": [
      " cloud ",
      " cloud_effi ciency ",
      " cloud_ssd ",
      " ephemeral_ ssd "
    ],
    " Default ": " cloud_effi ciency "
  },
  "EniMapping s ": {
    " Type ": " CommaDelim itedList ",
    " Descriptio n ": " NetworkInt erface to attach to
    instance . Max support 1 ENI .",
    " MaxLength ": 1
  },
  "InstanceNa me ": {
    " Type ": " String ",
    " Descriptio n ": " Display name of the instance , [ 2
    , 128 ] English or Chinese characters , must start with
    a letter or Chinese in size , can contain numbers ,
    ' _ ' or ' . ' , ' - ' "
  },
  "InternetMa xBandwidth Out ": {
    " Type ": " Number ",
    " Descriptio n ": " 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 .",
    " MinValue ": 0 ,
    " MaxValue ": 200
  },
  "InternetMa xBandwidth In ": {
    " Type ": " Number ",
    " Descriptio n ": " 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
  },
  "LaunchTemp lateVersio n ": {

```

```

    " Type ": " String ",
    " Descriptio n ": " Version of launch template . Default
version is used if version is not specified .",
    " AllowedPat tern ": "^[ 1 - 9 ]\\ d *$"
  },
  " PeriodUnit ": {
    " Type ": " String ",
    " Descriptio n ": " Unit of prepaid time period , it
could be Week / Month . Default value is Month . Old
instances will not be changed .",
    " AllowedVal ues ": [
      " Week ",
      " Month "
    ],
    " Default ": " Month "
  }
},
" Resources ": {
  " PrepayInst anceGroupC lone ": {
    " Type ": " ALIYUN :: ECS :: PrepayInst anceGroupC lone ",
    " Properties ": {
      " PeriodType ": {
        " Ref ": " PeriodType "
      },
      " Descriptio n ": {
        " Ref ": " Descriptio n "
      },
      " DiskMappin gs ": {
        " Fn :: Split ": [
          "",
          {
            " Ref ": " DiskMappin gs "
          },
          {
            " Ref ": " DiskMappin gs "
          }
        ]
      },
      " SystemDisk Descriptio n ": {
        " Ref ": " SystemDisk Descriptio n "
      },
      " AutoRenew ": {
        " Ref ": " AutoRenew "
      },
      " SourceInst anceId ": {
        " Ref ": " SourceInst anceId "
      },
      " MaxAmount ": {
        " Ref ": " MaxAmount "
      },
      " RamRoleNam e ": {
        " Ref ": " RamRoleNam e "
      },
      " MinAmount ": {
        " Ref ": " MinAmount "
      },
      " ImageId ": {
        " Ref ": " ImageId "
      },
      " SystemDisk DiskName ": {
        " Ref ": " SystemDisk DiskName "
      },
      " Tags ": {
        " Fn :: Split ": [

```

```

        },
        {
            "Ref": "Tags"
        },
        {
            "Ref": "Tags"
        }
    ]
},
"Password": {
    "Ref": "Password"
},
"AutoRenewPeriod": {
    "Ref": "AutoRenewPeriod"
},
"KeyPairName": {
    "Ref": "KeyPairName"
},
"LaunchTemplate": {
    "Ref": "LaunchTemplate"
},
"ZoneId": {
    "Ref": "ZoneId"
},
"SecurityGroup": {
    "Ref": "SecurityGroup"
},
"Period": {
    "Ref": "Period"
},
"LaunchTemplateId": {
    "Ref": "LaunchTemplateId"
},
"SystemDiskCategory": {
    "Ref": "SystemDiskCategory"
},
"EniMappings": {
    "Fn::Split": [
        ",",
        {
            "Ref": "EniMappings"
        },
        {
            "Ref": "EniMappings"
        }
    ]
},
"InstanceName": {
    "Ref": "InstanceName"
},
"InternetMaxBandwidthOut": {
    "Ref": "InternetMaxBandwidthOut"
},
"InternetMaxBandwidthIn": {
    "Ref": "InternetMaxBandwidthIn"
},
"LaunchTemplateVersion": {
    "Ref": "LaunchTemplateVersion"
},
"PeriodUnit": {
    "Ref": "PeriodUnit"
}
}
}

```

```

    },
    "Outputs ": {
      "PublicIps ": {
        "Description ": " Public IP address list of created
ecs instance .",
        "Value ": {
          "Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " PublicIps "
          ]
        }
      },
      "RelatedOrderIds ": {
        "Description ": " The related order id list of
created ecs instances ",
        "Value ": {
          "Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " RelatedOrderIds "
          ]
        }
      },
      "PrivateIps ": {
        "Description ": " Private IP address list of
created ecs instance . Only for VPC instance .",
        "Value ": {
          "Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " PrivateIps "
          ]
        }
      },
      "HostNames ": {
        "Description ": " Host names of created instance .",
        "Value ": {
          "Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " HostNames "
          ]
        }
      },
      "InnerIps ": {
        "Description ": " Inner IP address list of the
specified instance . Only for classical instance .",
        "Value ": {
          "Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " InnerIps "
          ]
        }
      },
      "ZoneIds ": {
        "Description ": " Zone id of created instance .",
        "Value ": {
          "Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " ZoneIds "
          ]
        }
      },
      "OrderId ": {
        "Description ": " The order id list of created
instance .",
        "Value ": {

```

```

        " Fn :: GetAtt ": [
            " PrepayInst anceGroupC lone ",
            " OrderId "
        ]
    },
    " InstanceId s ": {
        " Descriptio n ": " The instance id list of created
ecs instance ",
        " Value ": {
            " Fn :: GetAtt ": [
                " PrepayInst anceGroupC lone ",
                " InstanceId s "
            ]
        }
    }
}
}
}
}

```

3.17 ALIYUN::ECS::Route

ALIYUN::ECS::Route is used to create a custom route.

Syntax

```

{
    " Type ": " ALIYUN :: ECS :: Route ",
    " Properties ": {
        " Destinatio nCidrBlock ": String ,
        " RouteTable Id ": String ,
        " NextHopId ": String ,
        " NextHopTyp e ": String ,
        " RouteId ": String ,
        " NextHopLis t ": List
    }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
Destinatio nCidrBlock	String	Yes	No	The destination CIDR block of a routing entry.	None
RouteTable Id	String	Yes	No	The ID of the routing table to which the routing entry belongs.	None

Name	Type	Required	Editable	Description	Validity
NextHopId	String	Yes	No	The ID of the next-hop instance of the routing entry.	This parameter is applicable to non-ECMP routes.
RouteId	String	Yes	No	The route ID of the created routing entry.	None
NextHopType	String	No	No	The type of the next hop.	Valid values : Instance, Tunnel, HaVip, and RouterInterface. Default value: Instance. Instance indicates that the next hop is an ECS instance.

Name	Type	Required	Editable	Description	Validity
NextHopList	List	No	No	The list of next hops of the routing entry.	You must set the NextHopType and NextHopId parameters to specify the next hops. If you set the NextHopList parameter, the routing entry is added for the ECMP destination. The list contains multiple next hops of the ECMP routing entry. The list can contain two to four next hops. The NextHopList parameter can be set only when the routing entry belongs to a VRouter. The next hops must be the router interfaces pointing to the connected VBRs. If you do not set the

NextHopList syntax

```
" NextHopList ": [
  " NextHopId ": String ,
  " NextHopType ": String
]
```

NextHopList properties

Name	Type	Required	Editable	Description	Validity
NextHopId	String	Yes	No	The ID of the next-hop instance of a routing entry.	None
NextHopType	String	No	No	The type of the next hop.	Valid values : Instance , Tunnel, HaVip, and RouterInterface. Default value: RouterInterface. RouterInterface indicates that the next hop is a router interface instance.

Response parameters

Fn::GetAtt

None

Examples

```
{
  " ROSTemplateFormatVersion ": " 2015 - 09 - 01 ",
  " Resources ": {
    " ECSRoute ": {
      " Type ": " ALIYUN :: ECS :: Route ",
      " Properties ": {
```

```

    " RouteId ": " vrt - 25mz0uxk4 ",
    " RouteTable Id ": " vtb - 25oudgpsu ",
    " Destination nCidrBlock ": " 172 . 16 . 107 . 0 / 24 ",
    " NextHopId ": " i - 25xyhxtp "
  }
}
}
}

```

3.18 ALIYUN::ECS::SecurityGroupClone

Clones a security group.

Syntax

```

{
  " Type ": " ALIYUN :: ECS :: SecurityGroupClone ",
  " Properties ": {
    " SourceSecurityGroupId ": String ,
    " NetworkType ": String ,
    " VpcId ": String ,
    " Description ": String ,
    " SecurityGroupName ": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
SourceSecurityGroupId	String	Yes	No	The ID of the security group to be cloned.	Only applicable security group rules are copied to the target security group. The security group rules are selected based on the network type of the target security group.

Name	Type	Required	Editable	Description	Validity
NetworkType	String	No	No	The network type of the new security group. Set this parameter to "Classic."	Valid value: Classic.
VpcId	String	No	No	The ID of the VPC selected for the new security group.	NetworkType is inapplicable if both VpcId and NetworkType are specified.
Description	String	No	No	The description of the security group.	The description must be 2 to 256 characters in length and must not start with http:// or https://.

Name	Type	Required	Editable	Description	Validity
SecurityGroupName	String	No	No	The name of the security group.	The parameter is unspecified by default. The name must be 2 to 128 characters in length, including letters, Chinese characters, digits, periods (.), underscores (_), and hyphens (-). It must start with an uppercase letter, lowercase letter or a Chinese character and must not start with http:// or https://.

Response elements

Fn::GetAtt

SecurityGroupId: indicates the ID of the security group.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SG": {
      "Properties": {
        "SourceSecurityGroupId": "sg-2zeb0x9wr3-0oj2pqoeq8"
      },

```

```

    " SecurityGroupCloneName ": " clone_sg_vpc ",
    " Description ": " test clone sg vpc ",
    " NetworkType ": " Classic ",
    " VpcId ": " vpc - 2zehznmzvx dhtalybjvj 8 "
  },
  " Type ": " ALIYUN :: ECS :: SecurityGroupClone "
},
{
  " Outputs ": {
    " SecurityGroupCloneId ": {
      " Value ": {
        " Fn :: GetAtt ": [
          " SG ",
          " SecurityGroupCloneId "
        ]
      }
    }
  }
}
}

```

3.19 ALIYUN::ECS::SecurityGroupEgress

Creates an outbound access rule for a security group.

Syntax

```

{
  " Type ": " ALIYUN :: ECS :: SecurityGroupEgress ",
  " Properties ": {
    " SecurityGroupCloneId ": String ,
    " IpProtocol ": String ,
    " PortRange ": String ,
    " DestGroupId ": String ,
    " DestGroupOwnerId ": String ,
    " DestCidrIp ": String ,
    " Policy ": String ,
    " Priority ": String ,
    " NicType ": String
  }
}

```

Properties

Property	Type	Required	Editable	Description	Validity
IpProtocol	String	Yes	No	The IP protocol.	Valid values : tcp udp icmp gre all. The value all indicates that it supports four protocols.

Property	Type	Required	Editable	Description	Validity
PortRange	String	No	No	The port range of a specific IP protocol.	If the IpProtocol parameter is set to tcp or udp, the default port is used. Value range : 1 to 65535. For example , 1/200 indicates that the port range is from 1 to 200. If 200/1 is entered , an error message appears when the API is called. If the IpProtocol parameter is set to icmp , the port range is -1/-1. If the IpProtocol parameter is set to gre , the port range is -1/-1. If the IpProtocol parameter is set to all , the port range is -1/-1.

Property	Type	Required	Editable	Description	Validity
SecurityGroupId	String	No	No	The ID of the security group for which an outbound access rule is to be created.	N/A
NicType	String	No	No	The network type.	Valid values : internet intranet. Default value: internet.
Priority	Integer	No	No	The priority level of the authorization policy.	Value range : 1 to 100 . Default value: 1.

Property	Type	Required	Editable	Description	Validity
DestGroupId	String	No	No	The ID of the destination security group in the same region.	You must specify either the DestGroupId parameter or the DestCidrIp parameter. If both are specified, DestCidrIp is granted access to the specified IP range by default. If only the DestGroupId parameter is specified, the NicType parameter must be set to intranet.

Property	Type	Required	Editable	Description	Validity
DestCidrIp	String	No	No	The destination IP address range.	The IP address range must be specified in CIDR notation. The default value is 0.0.0.0/0, indicating that no restriction is applied. For example, an applicable value is 10.159.6.18/12. Only IPV4 addresses are supported.
Policy	String	No	No	The authorization policy.	Valid values : accept (access request accepted) drop (access request denied). Default value: accept.

Property	Type	Required	Editable	Description	Validity
DestGroupOwnerAccount	String	No	No	The Alibaba Cloud account that manages the destination security group. If this parameter is specified, the destination security group authorizes a security group of another account to set an access rule.	N/A
Description	String	No	No	The description of the security group rule.	The description must be 1 to 512 characters in length.

Property	Type	Required	Editable	Description	Validity
DestGroupOwnerId	String	No	No	The ID of the Alibaba Cloud account that manages the destination security group. If this parameter is specified, the destination security group authorizes a security group of another account to set an access rule. · If neither the DestGroupOwnerId nor the DestGroupOwnerIdAccount is specified, the access rule of your other security groups is set. · The DestGroupOwnerId parameter is inapplicable. If the DestCidrIp	N/A

Response elements

Fn::GetAtt

None.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SG": {
      "Type": "ALIYUN::ECS::SecurityGroupEgress",
      "Properties": {
        "SecurityGroupId": "sg-25bowo058",
        "IpProtocol": "tcp",
        "PortRange": "65535 / 65535",
        "DestCidrIp": "0.0.0.0 / 0"
      }
    }
  }
}
```

3.20 ALIYUN::ECS::SecurityGroupIngress

Creates an inbound access rule for a security group.

Syntax

```
{
  "Type": "ALIYUN::ECS::SecurityGroupIngress",
  "Properties": {
    "SecurityGroupId": String,
    "IpProtocol": String,
    "PortRange": String,
    "SourceGroupId": String,
    "SourceGroupOwnerId": String,
    "SourceCidrIp": String,
    "Policy": String,
    "Priority": String,
    "NicType": String
  }
}
```

```
}
```

Properties

Name	Type	Required	Editable	Description	Validity
IpProtocol	String	Yes	No	The IP protocol.	Valid values : tcp udp icmp gre all. The value all indicates that it supports four protocols.

Name	Type	Required	Editable	Description	Validity
PortRange	String	No	No	The port range of a specific IP protocol.	If the IpProtocol parameter is set to tcp or udp, the default port is used. Value range : 1 to 65535. For example , 1/200 indicates that the port range is from 1 to 200. If 200/1 is entered , an error message appears when the API is called. If the IpProtocol parameter is set to icmp , the port range is -1/-1. If the IpProtocol parameter is set to gre , the port range is -1/-1. If the IpProtocol parameter is set to all , the port range is -1/-1.

Name	Type	Required	Editable	Description	Validity
SourceGroup pId	String	No	No	The ID of the source security group in the same region.	The ID of the source security group. You must specify either the <code>SourceGroup pId</code> parameter or the <code>SourceCidr Ip</code> parameter. If both are specified, <code>SourceCidr Ip</code> is granted access to the specified IP range by default. If only the <code>SourceGroup pId</code> parameter is specified, the <code>NicType</code> parameter must be set to <code>intranet</code> .
SecurityGr oupId	String	No	No	The ID of the security group for which the inbound access rule is to be created.	N/A

Name	Type	Required	Editable	Description	Validity
NicType	String	No	No	The network type.	Valid values : internet intranet. Default value: internet.
SourceGroupOwnerAccount	String	No	No	The Alibaba Cloud account that manages the source security group . If this parameter is specified , the source security group authorizes a security group of another account to set an access rule.	If this parameter is unspecified, the source security group authorizes a security group of the same account to set an access rule by default. This parameter is inapplicable if the SourceCidrIp parameter is specified.
Priority	Integer	No	No	The priority level of the authorization policy.	Value range: 1 to 100. Default value: 1.

Name	Type	Required	Editable	Description	Validity
SourceCidrIp	String	No	No	The destination IP address range.	The IP address range must be specified in CIDR format. The default value is 0.0.0.0/0, indicating that no restriction is applied. Other applicable values include 10.159.6.18/12. Only IPv4 addresses are supported.
Policy	String	No	No	The authorization policy.	Valid values : accept (access request accepted) drop (access request denied). Default value: accept.

Name	Type	Required	Editable	Description	Validity
SourceGroupOwnerId	String	No	No	The ID of the Alibaba Cloud account that manages the source security group. If this parameter is specified, the source security group authorizes a security group of another account to set an access rule. · If SourceGroupOwnerId and SourceGroupOwnerAccount is unspecified, the access rule of your other security groups is set. · The SourceGroupOwnerId parameter is inapplicable if the SourceCidrIp	N/A

Name	Type	Required	Editable	Description	Validity
Description	string	No	No	The description of the security group rule	The description must be 1 to 512 characters in length.

Response elements

Fn::GetAtt

None.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "SG": {
      "Type": "ALIYUN::ECS::SecurityGroupIngress",
      "Properties": {
        "SecurityGroupId": "sg-25bowo058",
        "IpProtocol": "tcp",
        "PortRange": "65535 / 65535",
        "SourceCidrIp": "0.0.0.0 / 0"
      }
    }
  }
}
```

3.21 ALIYUN::ECS::VSwitch

Creates a VSwitch.

Syntax

```
{
  "Type": "ALIYUN::ECS::VSwitch",
  "Properties": {
    "ZoneId": String,
    "CidrBlock": String,
    "VpcId": String,
    "VSwitchName": String,
    "Description": String
  }
}
```

}

Properties

Name	Type	Required	Editable	Description	Validity
VpcId	String	Yes	No	The ID of the VPC where a VSwitch is to be created	N/A.
ZoneId	String	Yes	No	The ID of the zone to which the VSwitch is assigned	N/A.
VSwitchName	String	No	No	The name of the VSwitch to be created	The name must be 2 to 128 characters in length, including letters, Chinese characters, digits, underscores(_), and hyphens(-). It must start with an uppercase letter, lowercase letter, or Chinese character, and must not start with http:// or https://.

Name	Type	Required	Editable	Description	Validity
CidrBlock	String	Yes	No	The CIDR block of the VSwitch	The Classless Inter-Domain Routing (CIDR) block of the VSwitch must be a subnet of the VPC where the VSwitch is located and not used by other VSwitches.
Description	String	No	No	The description of the VSwitch	The description must be 2 to 258 characters in length and must not start with http:// or https://.

Response elements

Fn::GetAtt

VSwitchId: indicates the VSwitch ID allocated by the system.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "VpcName": {
      "Type": "String"
    },
    "VSwitch1CidrBlock": {
      "Type": "String",
      "Default": "172.16.100.0/24"
    },
    "VSwitch2CidrBlock": {
```

```

        " Type ": " String ",
        " Default ": " 172 . 16 . 80 . 0 / 24 "
    },
    },
    " Resources ": {
        " EcsVpc ": {
            " Type ": " ALIYUN :: ECS :: VPC ",
            " Properties ": {
                " CidrBlock ": " 172 . 16 . 0 . 0 / 12 ",
                " VpcName ": { " Ref ": " VpcName " },
            },
        },
        " VSwitch1 ": {
            " Type ": " ALIYUN :: ECS :: VSwitch ",
            " Properties ": {
                " ZoneId ": " cn - beijing - a ",
                " CidrBlock ": { " Ref ": " VSwitch1CidrBlock " },
                " VpcId ": { " Fn :: GetAtt ": [ " EcsVpc ", " VpcId " ] },
                " VSwitchName ": " create_vpc_vswitch_sg1 "
            },
        },
        " VSwitch2 ": {
            " Type ": " ALIYUN :: ECS :: VSwitch ",
            " Properties ": {
                " ZoneId ": " cn - beijing - a ",
                " CidrBlock ": { " Ref ": " VSwitch2CidrBlock " },
                " VpcId ": { " Fn :: GetAtt ": [ " EcsVpc ", " VpcId " ] },
                " VSwitchName ": " create_vpc_vswitch_sg2 "
            },
        },
        " SG_VSwitch_1 ": {
            " Type ": " ALIYUN :: ECS :: SecurityGroup ",
            " Properties ": {
                " SecurityGroupName ": " app_mall ",
                " Description ": " this is created by heat ",
                " VpcId ": { " Fn :: GetAtt ": [ " EcsVpc ", " VpcId " ] }
            },
            " Outputs ": {
                " SecurityGroupId ": {
                    " Value ": { " get_attr ": [ " SG_VSwitch_1 ",
SecurityGroupId " ] }
                }
            },
        },
        " SG_VSwitch_1_InRule ": {
            " Type ": " ALIYUN :: ECS :: SecurityGroupIngress ",
            " Properties ": {
                " SecurityGroupId ": { " Fn :: GetAtt ": [ " SG_VSwitch_1 ",
" SecurityGroupId " ] },
                " IpProtocol ": " tcp ",
                " PortRange ": " 1 / 65535 ",
                " SourceCidrIp ": { " Ref ": " VSwitch2CidrBlock " }
            },
        },
        " SG_VSwitch_1_OutRule ": {
            " Type ": " ALIYUN :: ECS :: SecurityGroupEgress ",
            " Properties ": {
                " SecurityGroupId ": { " Fn :: GetAtt ": [ " SG_VSwitch_1 ",
" SecurityGroupId " ] },
                " IpProtocol ": " tcp ",
                " PortRange ": " 1 / 65535 ",
                " DestCidrIp ": { " Ref ": " VSwitch2CidrBlock " }
            },
        },
    },

```

```

    "SG_VSwitch_2": {
      "Type": "ALIYUN::ECS::SecurityGroup",
      "Properties": {
        "SecurityGroupName": "app_mall",
        "Description": "this is created by heat",
        "VpcId": { "Fn::GetAtt": [ "EcsVpc", "VpcId" ] }
      },
    },
    "SG_VSwitch_2_InRule": {
      "Type": "ALIYUN::ECS::SecurityGroupIngress",
      "Properties": {
        "SecurityGroupId": { "Fn::GetAtt": [ "SG_VSwitch_2", "SecurityGroupId" ] },
        "IpProtocol": "tcp",
        "PortRange": "1 / 65535",
        "SourceCidrIp": { "Ref": "VSwitch1CidrBlock" }
      },
    },
    "SG_VSwitch_2_OutRule": {
      "Type": "ALIYUN::ECS::SecurityGroupEgress",
      "Properties": {
        "SecurityGroupId": { "Fn::GetAtt": [ "SG_VSwitch_2", "SecurityGroupId" ] },
        "IpProtocol": "tcp",
        "PortRange": "1 / 65535",
        "DestCidrIp": { "Ref": "VSwitch1CidrBlock" }
      },
    },
  }
}

```

4 Auto Scaling

4.1 ALIYUN::ESS::AlarmTask

ALIYUN::ESS::AlarmTask is used to create a monitoring alarm task.

Syntax

```
{
  " Type ": " ALIYUN :: ESS :: AlarmTask ",
  " Properties ": {
    " Statistics ": String ,
    " Name ": String ,
    " Evaluation Count ": Integer ,
    " Period ": Integer ,
    " MetricType ": String ,
    " Comparison Operator ": String ,
    " Dimensions ": List ,
    " ScalingGroupUpId ": String ,
    " AlarmAction ": List ,
    " Threshold ": Number ,
    " MetricName ": String ,
    " GroupId ": Integer ,
    " Description ": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
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

Name	Type	Required	Editable	Description	Validity
Evaluation Count	Integer	No	No	The number of consecutive times that the threshold needs to 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: second. Default value: 300.	Valid values: 60, 120, 300, and 900.
MetricType	String	No	No	The metric type.	Valid values: system and custom.
Comparison Operator	String	No	No	The alarm comparison operator used to define a condition in the alarm rule.	Valid values: $\leq$, $<$, $>$, and $\geq$.
Dimensions	List	No	No	The list of instances associated with the alarm rule.	You must include at least one instance in the list.

Name	Type	Required	Editable	Description	Validity
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 ID of the group to which the alarm rule belongs.	None
Description	String	No	Yes	The description of the alarm rule.	None

Dimensions syntax

```
" Dimensions ": [
  {
    " DimensionKey ": String ,
    " DimensionValue ": String
  }
]
```

]

Dimensions properties

Name	Type	Required	Editable	Description	Validity
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 ": " CommaDelim itedList ",
    " Descriptio n ": " Dimensions ",
    " MinLength ": 1
},
"Statistics ": {
    " Type ": " String ",
    " Descriptio n ": " Statistics ",
    " AllowedVal ues ": [
        " Average ",
        " Minimum ",
        " Maximum "
    ]
},
"Name ": {
    " Type ": " String ",
    " Descriptio n ": " Name "
},
"GroupId ": {
    " Type ": " Number ",
    " Descriptio n ": " Group   Id "
},
"MetricName ": {
    " Type ": " String ",
    " Descriptio n ": " Metric   Name "
},
"AlarmActio n ": {
    " Type ": " CommaDelim itedList ",
    " Descriptio n ": " Alarm   Actions ",
    " MinLength ": 1 ,
    " MaxLength ": 5
},
"Threshold ": {
    " Type ": " Number ",
    " Descriptio n ": " Threshold "
}
},
"Resources ": {
    " AlarmTask ": {
        " Type ": " ALIYUN :: ESS :: AlarmTask ",
        " Properties ": {
            " Comparison Operator ": {
                " Ref ": " Comparison Operator "
            },
            " Descriptio n ": {
                " Ref ": " Descriptio n "
            },
            " ScalingGro upId ": {
                " Ref ": " ScalingGro upId "
            },
            " MetricType ": {
                " Ref ": " MetricType "
            },
            " Evaluation Count ": {
                " Ref ": " Evaluation Count "
            },
            " 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 "
      ]
    }
  }
}
}

```

```
}
```

4.2 ALIYUN::ESS::AlarmTaskEnable

ALIYUN::ESS::AlarmTaskEnable is used to enable an alarm task. You can use this API to enable alarm tasks that are disabled.

Syntax

```
{
  "Type": "ALIYUN::ESS::AlarmTaskEnable",
  "Properties": {
    "AlarmTaskId": String,
    "Enable": Boolean
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
AlarmTaskId	String	Yes	No	The ID of the alarm task.	None
Enable	Boolean	Yes	Yes	Indicates whether to enable the alarm task.	None

Response parameters

Fn::GetAtt

None

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "Enable": {
      "Type": "Boolean",
      "Description": "Enable an alarm task or not",
      "AllowedValues": [
        "True",
        "true",
        "False",
        "false"
      ]
    },
    "AlarmTaskId": {
      "Type": "String",
      "Description": "The ID of the alarm task."
    }
  }
}
```

```

    },
    "Resources ": {
      "AlarmTaskE nable ": {
        "Type ": " ALIYUN :: ESS :: AlarmTaskE nable ",
        "Properties ": {
          "Enable ": {
            "Ref ": " Enable "
          },
          "AlarmTaskI d ": {
            "Ref ": " AlarmTaskI d "
          }
        }
      }
    },
    "Outputs ": {}
  }
}

```

4.3 ALIYUN::ESS::LifecycleHook

ALIYUN::ESS::LifecycleHook is used to create a lifecycle hook for a scaling group.

Syntax

```

{
  "Type ": " ALIYUN :: ESS :: LifecycleH ook ",
  "Properties ": {
    "LifecycleH ookName ": String ,
    "Notificati onArn ": String ,
    "HeartbeatT imeout ": Integer ,
    "Notificati onMetadata ": String ,
    "ScalingGro upId ": String ,
    "DefaultRes ult ": String ,
    "LifecycleT ransition ": String
  }
}

```

```
}
```

Properties

Name	Type	Required	Editable	Description	Validity
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.

Name	Type	Required	Editable	Description	Validity
NotificationArn	String	No	Yes	The Alibaba Cloud Resource Name (ARN) of the notification target that Auto Scaling uses 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 <code>acs:ess:{region}:{account-id}:{resource-relative-id}</code>. <code>region</code>: the region where the scaling group resides. <code>account-id</code>: the Alibaba Cloud account ID. Examples: - MNS queue: <code>acs:ess:{region}:{account-id}:queue/{queueName}</code> - MNS topic: <code>acs:ess:{region}:{account-id}:topic/{topicName}</code>

Name	Type	Required	Editable	Description	Validity
HeartbeatTimeout	Integer	No	Yes	The time that can elapse before the lifecycle hook times out. If the lifecycle hook times out, the scaling group performs the default action (DefaultResult). 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.	Valid values : 30 to 21,600. Unit: second. Default value: 600.

Name	Type	Required	Editable	Description	Validity
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 target. Auto Scaling sends the specified NotificationMetadata parameter value along with the notification message so that you can easily categorize your notifications. The NotificationMetadata parameter is applicable only after you set the NotificationArn parameter.	The parameter value must be 1 to 128 characters in length.
ScalingGroupID	String	Yes	No	The ID of the scaling group.	None

Name	Type	Required	Editable	Description	Validity
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 by the <code>DefaultResult = ABANDON</code> parameter during a scale-in event (<code>SCALE_IN</code>), the remaining lifecycle hooks in the same scaling group are also terminated. Otherwise, the action following the wait state is the next action, as specified in the <code>DefaultResult</code> parameter, after the last lifecycle event in the same scaling	Valid values: · <code>CONTINUE</code>: The scaling group continues the scale-in or scale-out process. · <code>ABANDON</code>: The scaling group stops any remaining actions of the scale-in or scale-out event. Default value: <code>CONTINUE</code>.

Name	Type	Required	Editable	Description	Validity
LifecycleTransition	String	Yes	Yes	The type of a scaling activity to which the lifecycle hook applies.	Valid values: - SCALE_OUT : scale-out event - SCALE_IN : scale-in event

Response parameters

Fn::GetAtt

- **LifecycleHookId**: the ID of the lifecycle hook.

Examples

```
{
  "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, digits, underscores (_), hyphens (-), and periods (.). It must start with a letter or digit.",
      "AllowedPattern": "^[a-zA-Z0-9\\u4e00-\\u9fa5][_\\.a-zA-Z0-9\\u4e00-\\u9fa5]{1,63}$"
    },
    "NotificationArn": {
      "Type": "String",
      "Description": "The Alibaba Cloud Resource Name (ARN) of the notification target that Auto Scaling uses to notify you when an instance is in the transition state for the lifecycle hook. This target can be either an MNS queue or an MNS topic. The format of the parameter value is acs:ess:{region}:{account-id}:{resource-relative-id}.\\nregion: the region where the scaling group resides \\naccount-id: the Alibaba Cloud account ID \\nFor example: \\nMNS queue: acs:ess:{region}:{account-id}:queue/{queue-name} \\nMNS topic: acs:ess:{region}:{account-id}:topic/{topic-name}",
      "AllowedPattern": "^(acs:ess:([a-zA-Z0-9-]+):(\\d+):(queue|topic)/([a-zA-Z0-9-]{0,255}))$",
      "MaxLength": "100"
    },
    "ScalingGroupId": {
      "Type": "String",
      "Description": "The ID of the scaling group."
    },
    "LifecycleTransition": {
      "Type": "String",

```

```

    "Description": "The type of a scaling activity to which the lifecycle hook applies. Valid values: \n SCALE_OUT : scale - out event \n SCALE_IN : scale - in event",
    "AllowedValues": [
      "SCALE_OUT",
      "SCALE_IN"
    ]
  },
  "HeartbeatTimeout": {
    "Type": "Number",
    "Description": "The time 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. \n 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 a scaling activity to the notification target. The parameter value must be 1 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 is applicable only after you set the NotificationArn parameter.",
    "MaxLength": 128
  },
  "DefaultResult": {
    "Type": "String",
    "Description": "The action that the scaling group takes when the lifecycle hook times out. Valid values: \n CONTINUE : The scaling group continues the scale - in or scale - out process. \n ABANDON : The scaling group stops any remaining actions of the scale - in or scale - out event. \n Default value : CONTINUE \n 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 in the same scaling group are also terminated. Otherwise, the action following the wait state is the next action, as specified in the DefaultResult parameter, after the last lifecycle event in 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"
                ]
            }
        }
    }
}

```

4.4 ALIYUN::ESS::ScalingConfiguration

ALIYUN::ESS::ScalingConfiguration is used to create a scaling configuration.

Syntax

```

{
  "Type": "ALIYUN::ESS::ScalingConfiguration",
  "Properties": {
    "DiskMappings": List,
    "InternetMaxBandwidthIn": Integer,
    "InstanceId": String,
    "SecurityGroupID": String,
    "SystemDiskCategory": String,
    "SystemDiskSize": Integer,
    "ImageID": String,
    "InternetMaxBandwidthOut": Integer,
    "IoOptimized": String,
    "ScalingGroupID": String,
    "InternetChargeType": String,
    "InstanceType": String,
    "ScalingConfigurationName": String,
    "InstanceTypes": List,
    "KeyPairName": String,

```

```

    " UserData ": String ,
    " RamRoleName ": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
ScalingGroupId	String	Yes	No	The ID of the scaling group to which the scaling configuration belongs.	None
DiskMappings	List	No	No	The list of disks you want to attach to the ECS instance.	A maximum of four disks can be attached.
InternetChargeType	String	No	No	The billing method for access over the Internet.	Valid values: PayByBandwidth and PayByTraffic. Default value: PayByTraffic.
InternetMaxBandwidthIn	Integer	No	No	The maximum inbound bandwidth from the Internet. Unit: Mbit/s.	Valid values : 1 to 100. Default value: 100.

Name	Type	Required	Editable	Description	Validity
InternetMaxBandwidthOut	Integer	No	No	The maximum outbound bandwidth to the Internet. Unit: Mbit/s.	Valid values in PayByBandwidth mode : 0 to 200 . Default value: 0. Valid values in PayByTraffic mode: 1 to 200. You must specify this parameter if you choose to use the PayByTraffic mode.
InstanceId	String	No	No	The ID of the ECS instance whose properties are used to create the scaling configuration.	None
SystemDiskCategory	String	No	No	The type of a system disk.	Valid values : cloud, cloud_efficiency, cloud_ssd , and ephemeral_ssd.

Name	Type	Required	Editable	Description	Validity
ImageId	String	No	No	The ID of the image used to start the ECS instance . You can use public images, custom images, and Alibaba Cloud Marketplace images.	For more information, see Public images for ECS instances .
InstanceType	String	No	No	The type of the ECS instance.	For more information, see ECS instance types .
SecurityGroupId	String	No	No	The ID of the security group to which the created instance belongs.	None
IoOptimized	String	No	No	This parameter specifies whether to create an I/O optimized instance.	Valid values : none (non-I/O optimized) and optimized (I/O optimized). Default value: none.

Name	Type	Required	Editable	Description	Validity
ScalingConfigurationName	String	No	No	The name of the scaling configuration.	The name must be 2 to 40 characters in length and can contain letters, numbers, and special characters including underscores (_), hyphens (-), and periods (.). The name must be unique in a scaling group. Default value: ScalingConfigurationId.

Name	Type	Required	Editable	Description	Validity
KeyPairName	String	No	No	The name of the key pair that is used to connect to the ECS instance.	For Windows-based instances, the KeyPairName parameter is inapplicable. For Windows-based instances, this parameter is empty by default. For Linux-based instances, the Password parameter still takes effect if this parameter is specified. However, logon by password is disabled, and the KeyPairName value is used.

Name	Type	Required	Editable	Description	Validity
RamRoleName	String	No	No	The RAM role name of the instance.	You can call the <code>ListRoles</code> API to query the role name. For more information, see CreateRole and ListRoles .
SystemDiskSize	Integer	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 system disk size is greater than the image size.

Name	Type	Required	Editable	Description	Validity
UserData	String	No	No	The user information you provide when you create an ECS instance .	The size of the user data is limited to 16 KB. You need to convert the data into Base64-encoded strings. If the data contains special characters , add a backslash (\) immediately before each special character to indicate that it needs to be translated into the regular text.
InstanceTypes	List	No	No	The ECS instance types that can be used in a scaling group.	You can specify a maximum of 10 ECS instance types. If you set this parameter , the InstanceType parameter becomes inapplicable .

Name	Type	Required	Editable	Description	Validity
PasswordInherit	Boolean	No	Yes	This parameter indicates whether to use the password predefined in the image you select . When you set this parameter, ensure that the selected image has a predefined password.	None

Name	Type	Required	Editable	Description	Validity
Tags	Map	No	Yes	The tags of the instance. A tag is a key-value pair. You can specify a maximum of five sets of tags. The format is: {"key1":"value1","key2":"value2", ... "key5":"value5"}. The following rules apply to keys and values: · A key can contain a maximum of 64 characters and cannot start with aliyun, http://, or https://. You cannot specify an empty string for a key. · A value can contain a maximum of 128 characters and cannot start with aliyun, http://, or https://. You can	None

Name	Type	Required	Editable	Description	Validity
SpotStrategy	String	No	Yes	The spot strategy for a Pay-As-You-Go instance. Valid values: • NoSpot: indicates a regular Pay-As-You-Go instance. • SpotWithPriceLimit: indicates a preemptible instance with the maximum hourly price. • SpotAsPriceGo: indicates a Pay-As-You-Go instance with its price based on the market price at the time of purchase. Default value: NoSpot.	Valid values : NoSpot, SpotWithPriceLimit, and SpotAsPriceGo.

Name	Type	Required	Editable	Description	Validity
InstanceName	String	No	Yes	The name of an ECS instance that is created based on the current scaling configuration.	None
SpotPriceLimit	Number	No	Yes	The maximum hourly price for a preemptible instance. This parameter is applicable only when the SpotStrategy parameter is set to SpotWithPriceLimit. Three decimal places are allowed at most. The default value of InstanceTypes can be overwritten by the value of SpotPriceLimitForInstanceType.	None

Name	Type	Required	Editable	Description	Validity
SpotPriceLimitForInstanceType	Map	No	Yes	The type of a preemptible instance. This parameter is applicable only when the SpotStrategy parameter is set to SpotWithPriceLimit. For example, <pre>{ "key1": "value1", "key2": "value2", ... "key5", "value5" }</pre> A key is an ECS instance type. A value can have a maximum of three decimal places.	None

DiskMappings syntax

```
"DiskMappings": [
  {
    "Category": String,
    "DiskName": String,
    "Description": String,
    "Device": String,
    "SnapshotId": String,
    "Size": String
  }
]
```

]

DiskMappings properties

Name	Type	Required	Editable	Description	Validity
Size	String	Yes	No	The size of a data disk. Unit: GB.	None
Category	String	No	No	The type of the data disk.	Valid values : cloud, cloud_efficiency, cloud_ssd, and ephemeral_ssd.
DiskName	String	No	No	The name of the data disk.	The name must be 1 to 128 characters in length and can contain letters, digits, underscores (_), hyphens (-), and periods (.).
Description	String	No	No	The description of the data disk.	The description must be 2 to 256 characters in length. This parameter is empty by default.

Name	Type	Required	Editable	Description	Validity
Device	String	No	No	The device name of the data disk in the ECS instance.	Example: /dev/xvd[a-z].
SnapshotId	String	No	No	The ID of the snapshot used to create the data disk.	None

Response parameters

Fn::GetAtt

ScalingConfigurationId: the ID of the scaling configuration. It is a globally unique identifier (GUID) generated by the system.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ScalingConfiguration": {
      "Type": "ALIYUN::ESS::ScalingConfiguration",
      "Properties": {
        "ImageId": "ubuntu1404_64_20G_aliaegis_20150325_vhd",
        "InstanceType": "ecs.t1.small",
        "InstanceId": "i-25xhhcqbu",
        "InternetChargeType": "PayByTraffic",
        "InternetMaxBandwidthIn": 1,
        "InternetMaxBandwidthOut": 20,
        "SystemDiskCategory": "cloud",
        "ScalingGroupId": "bwhtvpcBcK_Yac9fe3vd0_kv7E",
        "SecurityGroupId": "sg-25zwc3se0",
        "DiskMappings": [
          {
            "Size": 10
          },
          {
            "Category": "cloud",
            "Size": 10
          }
        ]
      }
    }
  },
  "Outputs": {
    "ScalingConfiguration": {
      "Value": {"get_attr": ["ScalingConfigurationId"]}
    }
  }
}
```

```
}
```

4.5 ALIYUN::ESS::ScalingGroup

ALIYUN::ESS::ScalingGroup is used to create a scaling group.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScalingGroup",
  "Properties": {
    "VpcId": String,
    "ScalingGroupName": String,
    "RemovalPolicies": List,
    "MinSize": Integer,
    "MaxSize": Integer,
    "VSwitchId": String,
    "LoadBalancerIds": List,
    "DefaultCooldown": Integer,
    "DBInstanceIds": List,
    "VSwitchIds": List
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
MinSize	Integer	Yes	No	The minimum number of ECS instances in a scaling group.	Valid values : 0 to 100.
MaxSize	Integer	Yes	No	The maximum number of ECS instances allowed in a scaling group.	Valid values : 0 to 100.
VpcId	String	No	No	The ID of the VPC to which the scaling group belongs.	None

Name	Type	Required	Editable	Description	Validity
ScalingGroupName	String	No	No	The name of the 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 digit or letter. This parameter must be unique in a region and under an Alibaba Cloud account. Default value: ScalingGroupId.

Name	Type	Required	Editable	Description	Validity
RemovalPolicies	List	No	No	The policies to remove ECS instances from the scaling group.	Valid values: OldestInstance: removes the ECS instance that was attached to the scaling group at the earliest point in time. NewestInstance: removes the ECS instance that was attached to the scaling group at the latest point in time. OldestScalingConfiguration: removes ECS instances that were created based on the earliest scaling configuration. Default value: OldestScalingConfiguration or OldestInstance. You can specify a maximum of two removal policies.

Name	Type	Required	Editable	Description	Validity
VSwitchId	String	No	No	The ID of the VSwitch in the VPC.	None
LoadBalancerIds	List	No	No	The list of IDs of Server Load Balancer (SLB) instances in the scaling group.	None
DefaultCooldown	Integer	No	No	The default cooldown time of the scaling group.	Valid values : 0 to 86,400. Unit: second . Default value: 300.
DBInstanceIds	List	No	No	The list of IDs of ApsaraDB for RDS instances in the scaling group.	None
VSwitchIds	List	No	No	The list of VSwitch IDs.	You can specify a maximum of five VSwitch IDs. If you set this parameter , the VSwitchId parameter becomes inapplicable .

Name	Type	Required	Editable	Description	Validity
MultiAZPolicy	String	No	No	The ECS instance scaling policy for a multi-zone scaling group.	Valid values : PRIORITY and BALANCE.
NotificationConfigurations	List	No	Yes	The list of notification configurations for event and resource changes.	None
ProtectedInstances	List	No	Yes	The list of ECS instances protected in the scaling group.	A scaling group can have a maximum of 1,000 protected instances.
StandbyInstances	List	No	Yes	The list of secondary ECS instances in the scaling group.	A scaling group can have a maximum of 1,000 secondary instances.
HealthCheckType	String	No	Yes	The health check type.	Valid values : ECS and NONE.

Response parameters

Fn::GetAtt

ScalingGroupId: the ID of the scaling group. It is a globally unique identifier (GUID) generated by the system.

Examples

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

```

" Resources ": {
  " ScalingGro up ": {
    " Type ": " ALIYUN :: ESS :: ScalingGro up ",
    " Properties ": {
      " MaxSize ": 1 ,
      " MinSize ": 1 ,
      # " ScalingGro upName ": " HeatCreate dReal2 ",
      # " DefaultCoo ldown ": 500 ,
      # " RemovalPol icy_1 ": "",
      # " RemovalPol icy_2 ": "",
    }
  }
},
" Outputs ": {
  " ScalingGro up ": {
    " Value ": {" Fn :: GetAtt ": [" ScalingGro up ", "
ScalingGro upId "]}}
  }
}
}

```

4.6 ALIYUN::ESS::ScalingGroupEnable

ALIYUN::ESS::ScalingGroupEnable is used to enable a scaling group.

Syntax

```

{
  " Type ": " ALIYUN :: ESS :: ScalingGro upEnable ",
  " Properties ": {
    " ScalingGro upId ": String ,
    " ScalingCon figuration Id ": String ,
    " InstanceId s ": List
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
ScalingGro upId	String	Yes	No	The ID of the scaling group.	None
ScalingCon figurationId	String	No	No	The ID of the scaling configurat ion to be activated in the scaling group.	None

Name	Type	Required	Editable	Description	Validity
InstanceIds	List	No	No	The list of IDs of the ECS instances to be attached to the enabled scaling group.	You can enter a maximum of 20 IDs.
ScalingRuleArisExecuteVersion	Integer	No	Yes	The version of the identifier for a scaling rule to be executed . If you change this property, all scaling rules in ScalingRuleAris will be executed once.	Minimum value: 0.
ScalingRuleAris	List	No	Yes	The list of unique identifiers of scaling rules in a scaling group. Invalid unique identifiers are not displayed in the query results and no error is reported.	You can enter a maximum of 10 scaling rule identifiers.

Name	Type	Required	Editable	Description	Validity
RemoveInstancesIds	List	No	Yes	The list of IDs of the ECS instances to be removed from the scaling group.	You can remove a maximum of 1,000 instances from the scaling group.

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.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "ScalingGroupEnable": {
      "Type": "ALIYUN::ESS::ScalingGroupEnable",
      "Properties": {
        "ScalingGroupId": "r0HUqbJ411cc2eQw8bUwyXI",
        "ScalingConfigurationId": "bJlLfdexm77LdsyptmelVWdS",
        "InstanceIds": ""
      }
    }
  },
  "Outputs": {
    "ScalingGroupEnable": {
      "Value": {"Fn::GetAtt": ["ScalingGroupEnable", "LifecycleState"]}
    }
  }
}
```

4.7 ALIYUN::ESS::ScalingRule

ALIYUN::ESS::ScalingRule is used to create a scaling rule.

Syntax

```
{
  "Type": "ALIYUN::ESS::ScalingRule",
  "Properties": {
    "AdjustmentValue": Integer,
    "Cooldown": Integer,
```

```

    "ScalingGroup": {
      "Type": "String",
      "Name": "ScalingRuleName"
    }
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
Adjustment Value	Integer	No	Yes	The scaling value defined in the scaling rule. The number of ECS instances per adjustment cannot exceed 500 in any circumstances.	Valid values in different adjustment modes: - QuantityChangeInCapacity: -500 to 500 - PercentChangeInCapacity: -100 to 10,000 - TotalCapacity: 0 to 1,000
Cooldown	Integer	No	Yes	The cooldown time of the scaling rule.	Valid values: 0 to 86,400. Unit: second. This parameter is empty by default.
ScalingGroupId	String	Yes	No	The ID of the scaling group to which the scaling rule belongs.	None

Name	Type	Required	Editable	Description	Validity
Adjustment Type	String	Yes	Yes	The adjustment mode of the scaling rule.	Valid 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 increase or decrease the total number of ECS instances in the current scaling group to a specified value.

Name	Type	Required	Editable	Description	Validity
ScalingRuleName	String	No	Yes	The name of the scaling rule.	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 name must be unique in a scaling group. The default value is the ID of the scaling rule.

Response parameters

Fn::GetAtt

- **ScalingRuleAri**: the unique identifier of the scaling rule.
- **ScalingRuleId**: the ID of the scaling rule. It is a globally unique identifier (GUID) generated by the system.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "ScalingRuleName": {
      "Type": "String",
      "Description": "The name of the scaling rule. 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 name must be unique in a scaling group. The default value is the ID of the scaling rule."
    }
  }
}
```

```

    " AllowedPattern ": "^[ a - zA - Z0 - 9 \\ u4e00 -\\ u9fa5 ][-
    _ . a - zA - Z0 - 9 \\ u4e00 -\\ u9fa5 ]{ 1 , 63 }$"
  },
  " Adjustment Value ": {
    " Type ": " Number ",
    " Descriptio n ": " The scaling value defined in the
    scaling rule . Valid values :\\ n - QuantityCh angeInCapa
    city : [- 500 , 500 ]\\ n - PercentCha ngeInCapac ity : [- 100 ,
    10000 ]\\ n - TotalCapac ity : [ 0 , 1000 ]",
    " MinValue ": - 500 ,
    " MaxValue ": 10000
  },
  " Cooldown ": {
    " Type ": " Number ",
    " Descriptio n ": " The cooldown time of the scaling
    rule . Valid values : 0 to 86 , 400 . Unit : second .
    This parameter is empty by default .
    " MinValue ": 0 ,
    " MaxValue ": 86400
  },
  " ScalingGro upId ": {
    " Type ": " String ",
    " Descriptio n ": " The ID of the scaling group to
    which the scaling rule belongs ."
  },
  " Adjustment Type ": {
    " Type ": " String ",
    " Descriptio n ": " The adjustment mode of the
    scaling rule . Valid values :\\ n - QuantityCh angeInCapa city
    : It is used to increase or decrease a specified
    number of ECS instances .\\ n - PercentCha ngeInCapac ity
    : It is used to increase or decrease a specified
    proportion of ECS instances .\\ n - TotalCapac ity : It is
    used to increase or decrease the total number of
    ECS instances in the current scaling group to a
    specified value .",
    " AllowedVal ues ": [
      " QuantityCh angeInCapa city ",
      " PercentCha ngeInCapac ity ",
      " TotalCapac ity "
    ]
  }
},
" Resources ": {
  " ScalingRul e ": {
    " Type ": " ALIYUN :: ESS :: ScalingRul e ",
    " Properties ": {
      " ScalingRul eName ": {
        " Ref ": " ScalingRul eName "
      },
      " Adjustment Value ": {
        " Ref ": " Adjustment Value "
      },
      " Cooldown ": {
        " Ref ": " Cooldown "
      },
      " ScalingGro upId ": {
        " Ref ": " ScalingGro upId "
      },
      " Adjustment Type ": {
        " Ref ": " Adjustment Type "
      }
    }
  }
}

```

```

    },
    "Outputs": {
      "ScalingRuleAri": {
        "Description": "The unique identifier of the scaling rule.",
        "Value": {
          "Fn::GetAtt": [
            "ScalingRule",
            "ScalingRuleAri"
          ]
        }
      },
      "ScalingRuleId": {
        "Description": "The ID of the scaling rule. It is a globally unique identifier (GUID) generated by the system.",
        "Value": {
          "Fn::GetAtt": [
            "ScalingRule",
            "ScalingRuleId"
          ]
        }
      }
    }
  }
}

```

4.8 ALIYUN::ESS::ScheduledTask

ALIYUN::ESS::ScheduledTask is used to create scheduled tasks based on input parameters.

Syntax

```

{
  "Type": "ALIYUN::ESS::ScheduledTask",
  "Properties": {
    "TaskEnabled": Boolean,
    "Description": String,
    "ScheduledTaskName": String,
    "LaunchExpirationTime": Integer,
    "LaunchTime": String,
    "RecurrenceEndTime": String,
    "RecurrenceType": "Daily",
    "RecurrenceValue": String,
    "ScheduledAction": String
  }
}

```

}

Properties

Name	Type	Required	Editable	Description	Validity
TaskEnabled	Boolean	No	Yes	Indicates whether to enable a scheduled task. - When the parameter is set to true, the task is enabled. - When the parameter is set to false, the task is disabled. Default value: true.	None
Description	String	No	Yes	The description of the scheduled task.	The description must be 2 to 200 characters in length.

Name	Type	Required	Editable	Description	Validity
ScheduledTaskName	String	No	Yes	The name of the scheduled task.	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 name of the scheduled task must be unique to an Alibaba Cloud account in a region. The default value is the ID of the scheduled scaling task.
LaunchExpirationTime	Integer	No	Yes	The time period during which a failed scheduled task is retried. Unit: second. Default value: 600.	Valid values : 0 to 21,600.

Name	Type	Required	Editable	Description	Validity
LaunchTime	String	No	Yes	The time at which the scheduled task is triggered. The time must be specified in UTC following the ISO 8601 format. If the Recurrence Type parameter is specified , the task is executed each day at the time specified by LaunchTime . If the Recurrence Type parameter is not specified , the task is only executed 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	The format is YYYY-MM-DDThh:mm:ssZ.
					Issue: 20190422

Name	Type	Required	Editable	Description	Validity
Recurrence EndTime	String	Yes	Yes	The end time of the scheduled task to be repeated. The time must be specified in UTC following the ISO 8601 format. You cannot enter a time point later than 90 days from the date of scheduled task creation or modification . If you set Recurrence EndTime, you must also set both Recurrence Type and Recurrence Value.	The format is YYYY-MM-DDThh:mm:ssZ.

Name	Type	Required	Editable	Description	Validity
Recurrence Type	String	No	Yes	The type of the scheduled task to be repeated.	Valid values: · Daily : The scheduled task is executed once after the 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 Recurrence Type, you must also set both Recurrence

Name	Type	Required	Editable	Description	Validity
Recurrence Value	String	No	Yes	The value determining how often a scheduled task recurs.	· Daily: You can enter a single value ranging from 1 to 31. · Weekly: You can enter multiple values corresponding to the days of the week. The values of Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday are 0 to 6 in sequence. Multiple values must be separated by commas (,). · Monthly: You can enter two values ranging from 1 to 31. The format is A-B. B must be

Name	Type	Required	Editable	Description	Validity
ScheduledAction	String	Yes	Yes	The operations performed when the scheduled task is triggered. When you set this parameter, you must also enter the unique identifier of the scaling rule.	The parameter value must be 1 to 200 characters in length.

Response parameters

Fn::GetAtt

- **ScheduledTaskId**: the ID of the scheduled task. It 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/cCBpdYdQuB_e2cUx0du6p_i0k"
      }
    }
  },
  "Outputs": {
    "ScheduledTaskId": {
      "Value": {
        "Fn::GetAtt": [
          "ScheduledTask",
          "ScheduledTaskId"
        ]
      }
    }
  }
}
```

```
}  
  }  
    }
```

5 Memcache

5.1 ALIYUN::MEMCACHE::Instance

The ALIYUN::MEMCACHE::Instance type is used to create an ApsaraDB for Memcache instance.

Syntax

```
{
  "Type" : " ALIYUN :: MEMCACHE :: Instance ",
  "Properties" : {
    "VpcId" : String ,
    "Capacity" : Integer ,
    "PrivateIpAddress" : String ,
    "ZoneId" : String ,
    "SecurityIP Array" : String ,
    "VSwitchId" : String ,
    "NetworkType" : String ,
    "Password" : String ,
    "InstanceName" : String
  }
}
```

Properties

Name	Type	Required	Description	Constraint
Capacity	integer	Yes	Storage space	Value range : 1024MB to 32GB. Value options: 1024MB, 2048MB, 4096MB, 8192MB, 16384MB, 32768MB. The unit is MB.

Password	string	Yes	Password	The password is a string of 8 to 30 characters and must contain digits and uppercase/lowercase letters.
VpcId	string	No	VPC ID	N/A
PrivateIpAddr	string	No	Private IP address in VPC	The private IP address must belong to the CIDR block specified by VpcId and VSwitchId.
ZoneId	string	No	Zone ID	N/A

SecurityIP Array	string	No	Whitelist of the IP addresses allowed to access the instance	The IP addresses are separated by commas and cannot be repeated. The list can contain a maximum of 1,000 IP addresses. Supported formats include %, 0.0.0.0/0, 10.23.12.24 (IP), and 10.23.12.24/24 . (CIDR mode; classless inter-domain routing . /24 indicates the length of the prefix of an IP address. The range of the prefix length is [1, 32].) 0.0.0.0/0 indicates that no access restriction is applied . By default , no access restriction is applied.
VSwitchId	string	No	VSwitch ID associated with the VPC ID	N/A
NetworkType	string	No	Network type	Value options : CLASSIC and VPC.
InstanceName	string	No	Instance name	It can contain up to 128 characters.

Response value**Fn::GetAtt**

- **InstanceStatus:** status of the created instance.
- **InstanceId:** ID of the created instance.
- **ConnectionDomain:** domain name used to connect to the instance.
- **QPS:** peak QPS of the instance.
- **InstanceName:** name of the instance.
- **PrivateIpAddress:** IP address of the instance in VPC (Classic networks do not have private IP addresses.)

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "OcsInstance": {
      "Type": "ALIYUN::MEMCACHE::Instance",
      "Properties": {
        "Password": "YU76sdfsfd UY",
        "Capacity": 1024,
        "VpcId": "vpc-25o8sqkwb",
        "VSwitchId": "vsw-25rcly5t9",
        "ZoneId": "cn-beijing-c"
      }
    }
  },
  "Outputs": {
    "ConnectionDomain": {
      "Description": "Intranet connection string",
      "Value": {
        "Fn::GetAtt": [
          "OcsInstance",
          "ConnectionDomain"
        ]
      }
    },
    "PrivateIpAddress": {
      "Description": "Internal IP address",
      "Value": {
        "Fn::GetAtt": [
          "OcsInstance",
          "PrivateIpAddress"
        ]
      }
    }
  }
}
```

6 MongoDB

6.1 ALIYUN::MONGODB::Instance

ALIYUN::MONGODB::Instance is used to create an ApsaraDB for MongoDB instance.

Syntax

```
{
  " Type ": " ALIYUN :: MONGODB :: Instance ",
  " Properties ": {
    " SrcDBInsta nceId ": String ,
    " DBInstance Storage ": Integer ,
    " DBInstance Descriptio n ": String ,
    " SecurityIP Array ": String ,
    " ZoneId ": String ,
    " VpcId " : String ,
    " VSwitchId " : String ,
    " BackupId ": String ,
    " NetworkTyp e ": String ,
    " DBInstance Class ": String ,
    " AccountPas sword ": String
  }
}
```

Properties

Name	Type	Required	Description	Validity
DBInstance Storage	Integer	Yes	The storage capacity of the ApsaraDB for MongoDB instance.	Valid values : 5 to 1,000. Unit: GB. The value can be increased in increments of 5 GB.
DBInstance Class	String	Yes	The specificat ions of the ApsaraDB for MongoDB instance.	Valid values: dds.mongo.mid , dds.mongo .standard, dds.mongo .large, dds. mongo.xlarge , dds.mongo. 2xlarge, and dds.mongo. 4xlarge.

Name	Type	Required	Description	Validity
SrcDBInstanceId	String	No	The ID of the instance that generates the backup set used to create the ApsaraDB for MongoDB instance.	None
DBInstanceDescription	String	No	The description of the ApsaraDB for MongoDB instance.	None

Name	Type	Required	Description	Validity
SecurityIP Array	String	No	The list of IP addresses allowed to access the ApsaraDB for MongoDB instance.	You must separate different IP addresses with commas (,) and ensure that there are no duplicates. You can add a maximum of 1,000 IP addresses. Supported formats include %, 0.0.0.0/0, 10.23.12.24, and 10.23.12.24/24. You can use the IP address format (10.23.12.24) or CIDR format (10.23.12.24/24). The suffix of a CIDR block can be in the range of 1 to 32. 0.0.0.0/0 indicates that no access limit is applied. No access limit is applied by default.
ZoneId	String	No	The ID of the zone where the ApsaraDB for MongoDB instance resides.	The zone of the VSwitch must be the same as that specified by ZoneId.

Name	Type	Required	Description	Validity
VpcId	String	No	The ID of the VPC to which the ApsaraDB for MongoDB instance belongs.	None
VSwitchId	String	No	The ID of the VSwitch in the VPC.	None
BackupId	String	No	The ID of the backup set used to create the ApsaraDB for MongoDB instance.	None
NetworkType	String	No	The network type of the ApsaraDB for MongoDB instance.	Valid values: CLASSIC and VPC. Default value: CLASSIC.
AccountPassword	String	No	The root account password.	The password must be 6 to 32 characters in length and can contain letters, digits, and underscores (_).
EngineVersion	String	No	The version of the ApsaraDB for MongoDB instance.	Valid values: 3.2 and 3.4. Default value: 3.4.
StorageEngine	String	No	The storage engine of the ApsaraDB for MongoDB instance.	Valid values: WiredTiger and RocksDB. Default value: WiredTiger.

Response parameters

Fn::GetAtt

- **OrderId**: the order ID of the ApsaraDB for MongoDB instance.
- **DBInstanceId**: the ID of the ApsaraDB for MongoDB instance, which is globally unique.
- **DBInstanceStatus**: the status of the ApsaraDB for MongoDB instance.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "MongoDB": {
      "Type": "ALIYUN::MONGODB::Instance",
      "Properties": {
        "DBInstanceClass": "dds.mongo.mid",
        "DBInstanceStorage": 10,
        "VpcId": "vpc-25o8sqkwb",
        "VSwitchId": "vsw-25w8qlld3m"
      }
    }
  },
  "Outputs": {
    "DBInstanceStatus": {
      "Description": "The status of the ApsaraDB for MongoDB instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDB",
          "DBInstanceStatus"
        ]
      }
    },
    "InstanceId": {
      "Description": "The ID of the ApsaraDB for MongoDB instance.",
      "Value": {
        "Fn::GetAtt": [
          "MongoDB",
          "DBInstanceId"
        ]
      }
    }
  }
}
```

6.2 ALIYUN::MONGODB::PrepayInstance

ALIYUN::MONGODB::PrepayInstance is used to create a pre-paid ApsaraDB for MongoDB instance.

Syntax

```
{
  "Type": "ALIYUN::MONGODB::PrepayInstance",
  "Properties": {
    "SrcDBInstanceId": String,
    "DBInstanceStorage": Integer,
  }
}
```

```

    " DBInstance Descriptio n ": String ,
    " Period ": Integer ,
    " ZoneId ": String ,
    " VpcId ": String ,
    " SecurityIP Array ": String ,
    " VSwitchId ": String ,
    " EngineVers ion ": String ,
    " StorageEng ine ": String ,
    " BackupId ": String ,
    " DBInstance Class ": String ,
    " NetworkTyp e ": String ,
    " AccountPas sword ": String
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
SrcDBInsta nceId	String	No	No	The ID of the instance that generates the backup set used to create the ApsaraDB for MongoDB instance.	None
DBInstance Storage	Integer	Yes	No	The storage capacity of the ApsaraDB for MongoDB instance.	Valid values : 5 to 1,000 . Unit: GB. The value can be increased in increments of 5 GB.
DBInstance Description	String	No	No	The descriptio n of the ApsaraDB for MongoDB instance.	None

Name	Type	Required	Editable	Description	Validity
Period	Integer	Yes	No	The subscription period.	Valid values : 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36. Unit: month. Default value: 1.
ZoneId	String	No	No	The ID of the zone where the ApsaraDB for MongoDB instance resides.	The zone of the VSwitch must be the same as that specified by ZoneId.
VpcId	String	No	No	The ID of the VPC to which the ApsaraDB for MongoDB instance belongs.	None

Name	Type	Required	Editable	Description	Validity
SecurityIP Array	String	No	No	The list of IP addresses allowed to access the ApsaraDB for MongoDB instance.	You must separate different IP addresses with commas (,) and ensure that there are no duplicates. You can add a maximum of 1,000 IP addresses. Supported formats include %, 0.0.0.0/0, 10.23.12.24, and 10.23.12.24/24. You can use the IP address format (10.23.12.24) or CIDR format (10.23.12.24/24). The suffix of a CIDR block can be in the range of 1 to 32. 0.0.0.0/0 indicates that no access limit is applied. No access limit is applied by default.

Name	Type	Required	Editable	Description	Validity
VSwitchId	String	No	No	The ID of the VSwitch in the VPC.	None
EngineVersion	String	No	No	The version of the ApsaraDB for MongoDB instance.	Valid values : 3.2 and 3.4.
StorageEngine	String	No	No	The storage engine of the ApsaraDB for MongoDB instance.	Valid values : WiredTiger and RocksDB. Default value: WiredTiger.
BackupId	String	No	No	The ID of the backup set used to create the ApsaraDB for MongoDB instance.	None
DBInstanceClass	String	Yes	No	The specifications of the ApsaraDB for MongoDB instance.	Valid values : dds.mongo.mid, dds.mongo.standard, dds.mongo.large, dds.mongo.xlarge, dds.mongo.2xlarge, and dds.mongo.4xlarge.

Name	Type	Required	Editable	Description	Validity
NetworkType	String	No	No	The network type of the ApsaraDB for MongoDB instance.	Valid values : CLASSIC and VPC. Default value: CLASSIC.
AccountPassword	String	No	No	The root account password.	The password must be 6 to 32 characters in length and can contain letters, digits, and underscores (_).

Response parameters

FN:GetAtt

- **OrderId**: the order ID of the created ApsaraDB for MongoDB instance.
- **ConnectionURI**: the URI used to connect to the ApsaraDB for MongoDB instance.
- **DBInstanceId**: the ID of the ApsaraDB for MongoDB instance, which is globally unique.
- **DBInstanceStatus**: the status of the ApsaraDB for MongoDB instance.
- **ReplicaSetName**: the name of the replica set.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "EngineVersion": {
      "Type": "String",
      "Description": "The version of an ApsaraDB for MongoDB instance. Valid values : 3.2 and 3.4.",
      "AllowedValues": [
        "3.2",
        "3.4"
      ],
      "Default": "3.4"
    },
    "ZoneId": {
```

```

    " Type ": " String ",
    " Descriptio n ": " The ID of the zone where the
ApsaraDB for MongoDB instance resides ."
  },
  " DBInstance Class ": {
    " Type ": " String ",
    " Descriptio n ": " The specificat ions of the
ApsaraDB for MongoDB instance . Make sure that the
specificat ions are correct ."
  },
  " VSwitchId ": {
    " Type ": " String ",
    " Descriptio n ": " The ID of the VSwitch used for
the ApsaraDB for MongoDB instance ."
  },
  " SecurityIP Array ": {
    " Type ": " String ",
    " Descriptio n ": " The list of IP addresses allowed
to access the ApsaraDB for MongoDB instance ."
  },
  " Period ": {
    " Type ": " Number ",
    " Descriptio n ": " The subscripti on period . Valid
values : 1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 12 , 24 ,
and 36 . Unit : month .",
    " AllowedVal ues ": [
      1 ,
      2 ,
      3 ,
      4 ,
      5 ,
      6 ,
      7 ,
      8 ,
      9 ,
      12 ,
      24 ,
      36
    ],
    " Default ": 1
  },
  " BackupId ": {
    " Type ": " String ",
    " Descriptio n ": " The ID of the backup set used
to create the ApsaraDB for MongoDB instance ."
  },
  " StorageEng ine ": {
    " Type ": " String ",
    " Descriptio n ": " The storage engine of the
ApsaraDB for MongoDB instance . Valid values : WiredTiger
and RocksDB .",
    " AllowedVal ues ": [
      " WiredTiger ",
      " RocksDB "
    ],
    " Default ": " WiredTiger "
  },
  " AccountPas sword ": {
    " Type ": " String ",
    " Descriptio n ": " The root account password . The
password must be 6 to 32 characters in length and
can contain letters , digits , and underscore s ( _ )."
  },
  " VpcId ": {

```

```

    " Type ": " String ",
    " Descriptio n ": " The ID of the VPC to which
the ApsaraDB for MongoDB instance belongs ."
  },
  " NetworkType ": {
    " Type ": " String ",
    " Descriptio n ": " The network type of the ApsaraDB
for MongoDB instance . Valid values : CLASSIC and VPC
. Default value : CLASSIC .",
    " AllowedVal ues ": [
      " CLASSIC ",
      " VPC "
    ]
  },
  " DBInstance Storage ": {
    " Type ": " Number ",
    " Descriptio n ": " The storage capacity of the
ApsaraDB for MongoDB instance . Valid values : 5 to
1 , 000 . Unit : GB . The value can be increased in
increments of 5 GB ."
  },
  " SrcDBInsta nceId ": {
    " Type ": " String ",
    " Descriptio n ": " The ID of the instance that
generates the backup set used to create the ApsaraDB
for MongoDB instance ."
  },
  " DBInstance Descriptio n ": {
    " Type ": " String ",
    " Descriptio n ": " The descriptio n of the ApsaraDB
for MongoDB instance ."
  }
},
" Resources ": {
  " MongoPrepa yInstance ": {
    " Type ": " ALIYUN :: MONGODB :: PrepayInst ance ",
    " Properties ": {
      " EngineVers ion ": {
        " Ref ": " EngineVers ion "
      },
      " ZoneId ": {
        " Ref ": " ZoneId "
      },
      " DBInstance Class ": {
        " Ref ": " DBInstance Class "
      },
      " VSwitchId ": {
        " Ref ": " VSwitchId "
      },
      " SecurityIP Array ": {
        " Ref ": " SecurityIP Array "
      },
      " Period ": {
        " Ref ": " Period "
      },
      " BackupId ": {
        " Ref ": " BackupId "
      },
      " StorageEng ine ": {
        " Ref ": " StorageEng ine "
      },
      " AccountPas sword ": {
        " Ref ": " AccountPas sword "
      }
    }
  },

```

```

    " VpcId ": {
      " Ref ": " VpcId "
    },
    " NetworkType ": {
      " Ref ": " NetworkType "
    },
    " DBInstance Storage ": {
      " Ref ": " DBInstance Storage "
    },
    " SrcDBInstanceID ": {
      " Ref ": " SrcDBInstanceID "
    },
    " DBInstance Description ": {
      " Ref ": " DBInstance Description "
    }
  },
  " Outputs ": {
    " DBInstance Status ": {
      " Description ": " The status of the ApsaraDB for
MongoDB instance .",
      " Value ": {
        " Fn :: GetAtt ": [
          " MongoPreparationInstance ",
          " DBInstance Status "
        ]
      }
    },
    " DBInstance ID ": {
      " Description ": " The ID of the ApsaraDB for
MongoDB instance .",
      " Value ": {
        " Fn :: GetAtt ": [
          " MongoPreparationInstance ",
          " DBInstance ID "
        ]
      }
    },
    " Connection URI ": {
      " Description ": " The URI used to connect to the
ApsaraDB for MongoDB instance .",
      " Value ": {
        " Fn :: GetAtt ": [
          " MongoPreparationInstance ",
          " Connection URI "
        ]
      }
    },
    " ReplicaSet Name ": {
      " Description ": " The name of the replica set .",
      " Value ": {
        " Fn :: GetAtt ": [
          " MongoPreparationInstance ",
          " ReplicaSet Name "
        ]
      }
    },
    " OrderID ": {
      " Description ": " The order ID of the created
ApsaraDB for MongoDB instance .",
      " Value ": {
        " Fn :: GetAtt ": [
          " MongoPreparationInstance ",

```

```
    "OrderId "
  ]
}
}
```

7 Marketplace

8 OSS

8.1 ALIYUN::OSS::Bucket

The ALIYUN::OSS::Bucket type is used to create an OSS bucket.

Syntax

```
{
  "Type" : "ALIYUN :: OSS :: Bucket",
  "Properties" : {
    "BucketName" : String,
    "AccessControl" : String,
    "CORSConfiguration" : Map,
    "LifecycleConfiguration" : Map,
    "LoggingConfiguration" : Map,
    "RefererConfiguration" : Map,
    "WebsiteConfiguration" : Map
  }
}
```

Properties

Name	Type	Required	Description	Constraint
BucketName	string	Yes	Bucket name.	The bucket name is a string of 3 to 63 characters and can contain only lowercase letters, digits, and underscores(_). It must start and end with a lowercase letter or digit.
AccessControl	string	No	Access permission.	Value options: private, public-read, and public-read-write.
CORSConfiguration	map	No	Cross-origin access configuration.	N/A

LifecycleConfiguration	map	No	File lifecycle configuration.	N/A
LoggingConfiguration	map	No	Log storage configuration.	N/A
RefererConfiguration	map	No	Referer configuration.	N/A
WebsiteConfiguration	map	No	Static hosting page configuration.	N/A

CORSConfiguration syntax

```

" CORSConfiguration ": {
  " CORSRule ": [
    {
      " AllowedHeader " : String ,
      " AllowedMethod " : List ,
      " AllowedOrigin " : List ,
      " ExposeHeader " : List ,
      " MaxAgeSeconds " : Integer
    }
  ]
}

```

CORSConfiguration properties

Name	Type	Required	Description	Constraint
CORSRule	list	No	Multiple cross-origin access rules.	N/A
AllowedHeader	string	No	Cross-origin access request header.	Value options : *, Cache-Control, Content-Language, Content-Type, Expires, Last-Modified, and Pragma.
AllowedMethod	list	No	Cross-origin access request method.	Value options : *, GET, PUT, POST, DELETE, HEAD.

AllowedOrigin	list	No	Cross-origin access request source.	N/A
ExposeHeader	list	No	Response header that users are allowed to access from an application (for example, a JavaScript XMLHttpRequest object).	N/A
MaxAgeSeconds	integer	No	Cache time for the returned results of browser prefetching (OPTIONS) requests for a specific resource.	N/A

LifecycleConfiguration syntax

```

" LifecycleConfiguration ": {
  " Rule ": [
    {
      " ID ": String ,
      " Prefix " : String ,
      " Status " : String ,
      " Expiration " : {
        " Days " : Integer ,
      }
      " CreatedBeforeDate " : String
    },
    " AbortMulti partUpload " : {
      " CreatedBeforeDate " : String ,
      " Days " : String
    }
  ]
}

```

LifecycleConfiguration properties

Name	Type	Required	Description	Constraint
Rule	list	No	Lifecycle rule.	N/A

ID	string	No	Unique rule ID.	The ID can contain a maximum of 255 bytes . When this parameter is unspecified or null, OSS generates a unique rule ID.
Prefix	string	No	Prefix applicable to the lifecycle rule.	The rule takes effect only for the objects that match the prefix. Overlapping prefixes are not allowed.
Status	string	No	Whether to enable or disable the lifecycle rule.	Value options : Enable and Disable.
Expiration	map	No	Object rule expiration attribute.	N/A

Days	string	No	Number of days after which the rule takes effect following the last object modification time.	When the number of days from the last modification time of the object exceeds the specified number of days, the rule is executed to delete the object. For example, if it is set to 30 days, the objects whose last modification date is January 1, 2016 are scanned and deleted by the backend program on January 31, 2016.
CreatedBeforeDate	string	No	Date before which the rule takes effect.	The date must follow the ISO8601 format and always be UTC 00:00 AM, for example, 2002-10-11T00:00:00.000Z.
AbortMultiPartUpload	map	No	Expiration time.	N/A

LoggingConfiguration syntax

```
" LoggingConfiguration ": {
  " TargetBucket ": String ,
  " TargetPrefix ": String
```

```
}

```

LoggingConfiguration properties

Name	Type	Required	Description	Constraint
TargetBucket	string	No	Bucket that stores access logs.	N/A
TargetPrefix	string	No	Prefix of the name of the finally saved access log file.	N/A

WebsiteConfiguration syntax

```
" WebsiteConfiguration ":{
  " IndexDocument ": String ,
  " ErrorDocument ": String
}
```

WebsiteConfiguration properties

Name	Type	Required	Description	Constraint
IndexDocument	string	No	Static homepage.	N/A
ErrorDocument	string	No	Static error page.	N/A

RefererConfiguration syntax

```
" RefererConfiguration ":{
  " AllowEmptyReferer ": String ,
  " RefererList ": List
}
```

RefererConfiguration properties

Name	Type	Required	Description	Constraint
AllowEmptyReferer	string	No	Whether to allow access requests with a null referer field.	N/A
RefererList	list	No	White list of allowed referers	Whitelist of allowed referers.

Response value

Fn::GetAtt

- **Name:** bucket name, which is globally unique.
- **DomainName:** domain name used by bucket access.
- **InternalDomainName:** domain name used by bucket access through the internal network.

Example

```
{
  "ROSTemplateFormatVersion" : "2015-09-01",
  "Resources" : {
    "Bucket" : {
      "Type" : "ALIYUN::OSS::Bucket",
      "Properties" : {
        "AccessControl" : "private",
        "BucketName" : "roctest",
        "WebsiteConfiguration" : {
          "IndexDocument" : "index1.html",
          "ErrorDocument" : "error404.html"
        },
        "LoggingConfiguration" : {
          "TargetBucket" : "cos-mirror",
          "TargetPrefix" : "test404"
        },
        "CORSConfiguration" : {
          "CORSRule" : [ {
            "AllowedHeader" : ["*"],
            "AllowedMethod" : ["GET", "PUT"],
            "AllowedOrigin" : ["*"],
            "ExposeHeader" : ["Date"],
            "MaxAgeSeconds" : 3600
          } ]
        },
        "LifecycleConfiguration" : {
          "Rule" : [ {
            "ID" : "deleteRule",
            "Prefix" : "test/",
            "Status" : "Enabled",
            "Expiration" : {
              "Days" : 2
            },
            "AbortMultiPartUpload" : {
              "CreatedBeforeDate" : "2014-10-11T00:00:00.000Z"
            }
          } ]
        },
        "RefererConfiguration" : {
          "AllowEmptyReferer" : true,
          "RefererList" : [ "http://www.aliyun.com", "https://www.?.aliyuncs.com" ]
        }
      }
    }
  },
  "Outputs" : {
```

```
" Name ": {  
  " Value " : {" Fn :: GetAtt ": [" Bucket ", " Name "]}  
},  
" DomainName ": {  
  " Value " : {" Fn :: GetAtt ": [" Bucket ", " DomainName "]}  
}  
}
```

9 RAM

9.1 ALIYUN::RAM::AttachPolicyToRole

ALIYUN::RAM::AttachPolicyToRole is used to attach an authorization policy to the specified role.

Syntax

```
{
  " Type ": " ALIYUN :: RAM :: AttachPol i  cyToRole ",
  " 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 role, such as dev.	None

Response parameters

FN::GetAtt

None

Examples

```
{
  " ROSTemplat eFormatVer sion ": " 2015 - 09 - 01 ",
  " Resources ": {
    " AttachPol i  cyToRole ": {
      " Type ": " ALIYUN :: RAM :: AttachPol i  cyToRole ",

```

```

    " Properties ": {
      " PolicyName ": " OSS - Administra  tor ",
      " PolicyType ": " Custom ",
      " RoleName ": " OSSAdminRo  le "
    }
  }
}

```

9.2 ALIYUN::RAM::ManagedPolicy

ALIYUN::RAM::ManagedPolicy is used to create a Resource Access Management (RAM) policy.

Syntax

```

{
  " Type ": " ALIYUN :: RAM :: ManagedPol  icy ",
  " Properties ": {
    " PolicyName ": String ,
    " Descriptio  n ": String ,
    " PolicyDocu  ment ": Map ,
    " Users ": List ,
    " Groups ": List ,
    " Roles ": List
  }
}

```

Properties

Name	Type	Required	Description	Validity
PolicyName	String	Yes	The name of the policy.	The name must be 1 to 128 characters in length.
Description	String	No	The description of the policy.	The description must be 1 to 1,024 characters in length.
PolicyDocu ment	Map	No	The policy details.	None
Users	List	No	The users to whom the policy is applied.	None

Name	Type	Required	Description	Validity
Groups	List	No	The groups to which the policy is applied.	None
Roles	List	No	The roles to which the policy is applied.	None
PolicyDocumentUnchecked	Map	No	The policy document that describes which operations are allowed on which resources. If you set this parameter, PolicyDocument becomes inapplicable.	None

PolicyDocument syntax

```

" PolicyDocument ": {
  " Version ": String ,
  " Statement ": [
    {
      " Effect ": String ,
      " Action ": List ,
      " Resource ": List
    }
  ]
}

```

PolicyDocument properties

Name	Type	Required	Description	Validity
Version	String	No	The version of the policy.	None
Statement	List	No	The policy rules.	None

Name	Type	Required	Description	Validity
Action	List	No	The policy-specific operations.	None
Resource	List	No	The resources to which the policy is applied.	None
Effect	String	No	This parameter specifies whether operations defined by the Action parameter can be performed on the resources defined by the Resource parameter.	None

Response parameters

Fn::GetAtt

PolicyName: the name of the policy.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "RamPolicy": {
      "Type": "ALIYUN::RAM::ManagedPolicy",
      "Properties": {
        "PolicyName": "RosTest",
        "Description": "createdByRos",
        "PolicyDocument": {
          "Version": "1",
          "Statement": [
            {
              "Effect": "Allow",
              "Action": [ "oss:*" ],
              "Resource": [ "acs:oss:*:*:*" ]
            }
          ]
        }
      },
      "Roles": [ "RosRole" ],
      "Groups": [ "RosGroup" ],
    }
  }
}
```

```

        " Users ": [" RosUser "]
      }
    },
    " Outputs ": {
      " PolicyName ": {
        " Value ": {
          " Fn :: GetAtt ": [" RamPolicy "," PolicyName "]
        }
      }
    }
  }
}

```

9.3 ALIYUN::RAM::UserToGroupAddition

ALIYUN::RAM::UserToGroupAddition is used to add RAM users to a RAM group.

Syntax

```

{
  " Type ": " ALIYUN :: RAM :: UserToGrou  pAddition ",
  " Properties ": {
    " GroupName ": String ,
    " Users ": List
  }
}

```

Properties

Name	Type	Required	Description	Validity
GroupName	String	Yes	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	The names of RAM users to be added to the RAM group.	None

Response parameters

None

Examples

```

{
  " ROSTemplat eFormatVer sion ": " 2015 - 09 - 01 ",
  " Resources ": {
    " RamUserToG roup ": {

```

```
    " Type ": " ALIYUN :: RAM :: UserToGroupAddition ",
    " Properties ": {
      " GroupName ": " hope ",
      " Users ": [" hope "]
    }
  },
  " Outputs ": {
    " GroupName ": {
      " Value ": {" Fn :: GetAtt ": [" RamGroup ", " GroupName
    ]}
    }
  }
}
```

10 RDS

10.1 ALIYUN::RDS::DBInstance

Creates a database instance.

Syntax

```
{
  " Type ": " ALIYUN :: RDS :: DBInstance ",
  " Properties ": {
    " Engine ": String ,
    " MultiAZ ": Boolean ,
    " VpcId ": String ,
    " DBMappings ": List ,
    " DBInstance Descriptio n ": String ,
    " Connection Mode ": String ,
    " MasterUser name ": String ,
    " MasterUser Password ": String ,
    " ZoneId ": String ,
    " DBInstance NetType ": String ,
    " DBInstance Storage ": Integer ,
    " VSwitchId ": String ,
    " AllocatePu blicConnec tion ": Boolean ,
    " EngineVers ion ": String ,
    " PreferredB ackupTime ": String ,
    " DBInstance Class ": String ,
    " SecurityIP List ": String ,
    " BackupRete ntionPerio d ": Integer ,
    " PrivateIpA ddress ": String ,
    " PreferredB ackupPerio d ": List
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Engine	String	Yes	No	The database engine.	Valid values : MySQL SQLServer PostgreSQL PPAS.

Name	Type	Required	Editable	Description	Validity
DBInstanceStorage	Integer	Yes	Yes	The storage space of the database instance.	Value range for MySQL : 5 to 1000 . Value range for SQLServer : 10 to 1000 . Value range for PostgreSQL : 5 to 2000. Value range for PPAS: 5 to 2000. Unit: GB. The storage space increases or decreases by 5 GB.
EngineVersion	String	Yes	No	The version of the database engine.	Valid values: 5.5 5.6 2008r2 9.4 9.3. MySQL: 5.5 5.6. SQLServer: 2008r2. PostgreSQL: 9.4. PPAS: 9.3.
DBInstanceClass	String	Yes	Yes	The database instance type.	Valid values : rds.mys2.large rds.mss1.large rds.pg.s1.small.

Name	Type	Required	Editable	Description	Validity
SecurityIP List	String	Yes	Yes	The list of IP addresses allowed to access any database in the instance.	Set this parameter to an array and use commas (,) to separate IP addresses. The list can contain up to 1000 addresses. You cannot enter the same address twice. The format is 0.0.0.0/0. For example, you can specify the parameter in the format of 10.23.12.24 or 10.23.12.24/24 according to the CIDR standard. 10.23.12.24 indicates an IP address. /24 indicates the length of the prefix of this IP address. The value range for the length of the prefix is from 1 to 32. 0.0.0.0/0 indicates that the databases in the instance

Name	Type	Required	Editable	Description	Validity
MultiAZ	Boolean	No	No	Specifies whether the database instance can be deployed in multiple zones.	N/A
VpcId	String	No	No	The VPC ID.	N/A
DBMappings	List	No	No	Creates databases in the instance.	N/A
DBInstanceDescription	String	No	No	The description or additional information of the database instance.	The description must be 2 to 256 characters in length, including Chinese characters, letters, digits, underscores (_), and hyphens (-). It must start with a Chinese character or a letter and cannot start with http:// or https://.

Name	Type	Required	Editable	Description	Validity
Connection Mode	String	No	No	Specifies the connection mode of the database instance.	Valid values: Performance Safty. · Performance: indicates the standard mode. · Safty: indicates the enhanced security mode. If this parameter is unspecified, Relational Database Service (RDS) automatically selects a mode by default.

Name	Type	Required	Editable	Description	Validity
MasterUser name	String	No	No	The username used to log on to the primary account of the database instance.	A valid username must be a unique string of characters. It must start with a letter and contain a maximum of 16 characters, including lowercase letters, digits, and underscores (_).
MasterUser Password	String	No	No	The password used to log on to the primary account of the database instance.	The password must be 6 to 32 characters in length, including letters, digits, and underscores (_).
ZoneId	String	No	No	The zone ID.	N/A

Name	Type	Required	Editable	Description	Validity
DBInstanceNetType	String	No	No	The network type of the database instance.	Valid values : Internet Intranet · Select Internet for the instance to access the public network. · Select Intranet for the instance to access the private network. Default value: Intranet.
VSwitchId	String	No	No	The ID of the VSwitch that is connected to the VPC.	N/A
AllocatePublicConnection	Boolean	No	No	Specifies whether to apply for a connection string to access the public network.	N/A

Name	Type	Required	Editable	Description	Validity
PreferredBackupTime	String	No	No	The time scheduled for backing up the database.	The format is HH:mmZ-HH:mm Z. 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 23:00Z-24:00Z.
BackupRetentionPeriod	Number	No	No	The number of days the backup is retained.	Value range : 7 to 730 . Default value: 7.

Name	Type	Required	Editable	Description	Validity
PrivateIpAddress	String	No	No	Specifies a private IP address for the VSwitch of the instance.	If this parameter is unspecified, the system automatically allocates an IP address to the VSwitch.
PreferredBackupPeriod	List	No	No	The points in time specified for the recurring task of backing up the database.	Valid values : Monday Tuesday Wednesday Thursday Friday Saturday Sunday.
MasterUserType	String	No	No	The type of the primary account.	Valid values : Normal Super . Default value: Normal.

Name	Type	Required	Editable	Description	Validity
Tags	Map	No	Yes	• The list of tags, describing the TagKey and the TagValue. • The TagKey parameter is required and the TagValue parameter is optional. • Sample format : { "key1" : "value1" , "key2" : "value2" }.	N/A

DBMappings syntax

```
" DBMappings ": [
  {
    " DBDescript ion ": String ,
    " CharacterS etName ": String ,
    " DBName ": String
  }
]
```

]

DBMappings properties

Name	Type	Required	Editable	Description	Validity
CharacterSetName	String	Yes	No	The name of a character set.	Valid values: utf8 gbk latin1 utf8mb4 _Chinese_PRC_CI_AS Chinese_PRC_CS_AS SQL_Latin1_General_CP SQL_Latin1_General_CP and Chinese_PRC_BIN. Valid values for MySQL: utf8 gbk latin1 utf8mb4 (applicable to version 5.5 and 5.6). Valid values for SQL Server: Chinese_PRC_CI_AS Chinese_PRC_CS_AS SQL_Latin1_General_CP1_CI_AS SQL_Latin1_General_CP1_CS_AS and Chinese_PRC_BIN.

Name	Type	Required	Editable	Description	Validity
DBName	String	Yes	No	The database name.	A valid name must be a unique string of characters . It must start with a letter and can contain up to 64 characters , including lowercase letters, digits, and underscores (_).
DBDescription	String	No	No	The database description.	The description must be 2 to 256 characters in length, including Chinese characters , letters , digits, underscores (_), and hyphens (-). It must start with a Chinese character or a letter and must not start with http:// or https://.

Response elements

Fn::GetAtt

- **DBInstanceId**: indicates the ID of the database instance.
- **InnerPort**: indicates the port of the database instance used to access the intranet.
- **InnerIPAddress**: indicates the IP address of the intranet.
- **InnerConnectionString**: indicates the string used to connect the database instance to the intranet.
- **PublicPort**: indicates the port of the database instance used to access the public network.
- **PublicConnectionString**: indicates the string used to connect the database instance to the public network.
- **PublicIPAddress**: indicates the IP address of the public network.

Example

Create an RDS database instance.

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Database": {
      "Type": "ALIYUN::RDS::DBInstance",
      "Properties": {
        "Engine": "MySQL",
        "EngineVersion": "5.6",
        "DBInstanceClass": "rds.mysql.t1.small",
        "DBInstanceStorage": "10",
        "DBInstanceNetType": "Intranet",
        "SecurityIPList": "0.0.0.0/0",
        "MasterUsername": "hope",
        "DBMappings": [{
          "DBName": "hope",
          "CharacterSet": "utf8"
        }]
      }
    }
  },
  "Outputs": {
    "DBInstanceId": {
      "Value": {"get_attr": ["DBInstanceId"]}
    },
    "PublicConnectionString": {
      "Value": {"get_attr": ["ConnectionString"]}
    },
    "PublicPort": {
      "Value": {"get_attr": ["Port"]}
    }
  }
}
```

```
}
```

Creates an RDS database instance connected to VPC.

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Database": {
      "Type": "ALIYUN::RDS::DBInstance",
      "Properties": {
        "Engine": "MySQL",
        "EngineVersion": "5.6",
        "DBInstanceClass": "rds.mys2.small",
        "DBInstanceStorage": "10",
        "DBInstanceNetType": "Intranet",
        "SecurityIPList": "0.0.0.0/0",
        "VSwitchId": "ttt",
        "VpcId": "myvpc_id"
      }
    }
  },
  "Outputs": {
    "DBInstance Id": {
      "Value": {"get_attr": ["DBInstance Id"]}
    },
    "InnerConnectionString": {
      "Value": {"get_attr": ["Connection String"]}
    },
    "InnerPort": {
      "Value": {"get_attr": ["Port"]}
    }
  }
}
```

10.2 ALIYUN::RDS::PrepayDBInstance

ALIYUN::RDS::PrepayDBInstance is used to database instances that are billed using the subscription method.

Syntax

```
{
  "Type": "ALIYUN::RDS::PrepayDBInstance",
  "Properties": {
    "DBMappings": List,
    "CouponCode": String,
    "MasterUserName": String,
    "PeriodType": String,
    "DBInstanceNetType": String,
    "MasterUserType": String,
    "PreferredBackupTime": String,
    "PrivateIpAddress": String,
    "Engine": String,
    "MultiAZ": Boolean,
    "VpcId": String,
    "ConnectionMode": String,
    "AutoRenew": Boolean,
    "VSwitchId": String,
    "BackupRetentionPeriod": Number,

```

```

    " Quantity ": Number ,
    " CommodityC ode ": String ,
    " EngineVers ion ": String ,
    " DBInstance Class ": String ,
    " PreferredB ackupPerio d ": List ,
    " DBInstance Storage ": Integer ,
    " DBInstance Descriptio n ": String ,
    " Tags ": map ,
    " Period ": Number ,
    " MasterUser Password ": String ,
    " AllocatePu blicConnec tion ": Boolean
  }
}

```

Properties

Name	Type	Required	Editable	Description	Validity
DBMappings	List	No	No	New databases created in instances.	None
CouponCode	String	No	No	None	None
MasterUser name	String	No	No	The username used to log on to the primary account of a database instance.	A valid username must be a unique string of characters . The username can be up to 16 characters in length, including lowercase letters, digits, and underscores (_). It must start with a letter.

Name	Type	Required	Editable	Description	Validity
PeriodType	String	Yes	No	The subscription period type.	Valid values : Year and Month. Default value: Month.
DBInstanceNetType	String	No	No	The network type of a database instance.	Valid values : Internet and Intranet . · Select Internet to allow access to the instance through the public network. · Select Intranet to allow access to the instance through the private network. Default value: Intranet.
MasterUserType	String	No	No	The user account type .	Valid values : Normal and Master.

Name	Type	Required	Editable	Description	Validity
PreferredBackupTime	String	No	No	The time scheduled for backing up the database.	The format is HH:mmZ-HH:mm Z. 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.

Name	Type	Required	Editable	Description	Validity
PrivateIpAddress	String	No	No	The private IP address for the VSwitch of an instance.	If you do not set this parameter, the system automatically allocates a private IP address to the VSwitch.
Engine	String	Yes	No	The database engine.	Valid values : MySQL, SQLServer, PostgreSQL, and PPAS.
MultiAZ	Boolean	No	No	This parameter specifies whether a database instance can be deployed in multiple zones.	None
VpcId	String	No	No	The ID of the VPC to which a database instance belongs.	None

Name	Type	Required	Editable	Description	Validity
Connection Mode	String	No	No	The connection mode of a database instance.	Valid values: Performance and Safty. · Performance: indicates the standard mode. · Safty: indicates the enhanced security mode. If you do not set this parameter, ApsaraDB for RDS automatically selects a mode by default.
AutoRenew	Boolean	No	No	This parameter specifies whether to extend your subscription after an instance expires.	Valid values : true, True , false, and False.
VSwitchId	String	No	No	The ID of the VSwitch that is connected to the VPC.	None

Name	Type	Required	Editable	Description	Validity
BackupRetentionPeriod	Number	No	No	The number of days the backup is retained.	None
Quantity	Number	No	No	The number of database instances to be created.	Valid values : 1 to 99. Default value: 1.
CommodityCode	String	Yes	No	The commodity code of the order.	Valid values : rds, bards, and rords.
ZoneId	String	No	No	The ID of the zone.	None
EngineVersion	String	Yes	No	The database engine version.	Valid values: 5.5, 5.6, 2008r2, 9.4, and 9.3. - Valid values for MySQL: 5.5 and 5.6. - Valid values for SQLServer : 2008r2. - Valid values for PostgreSQL : 9.4. - Valid values for PPAS: 9.3.
DBInstanceClass	String	Yes	Yes	The database instance type.	Valid values : rds.mys2.large, rds.mss1.large, and rds.pg.s1.small.

Name	Type	Required	Editable	Description	Validity
PreferredBackupPeriod	List	No	No	The points in time specified for the recurring task of backing up the data.	Valid values : Monday, Tuesday, Wednesday , Thursday , Friday, Saturday, and Sunday.
DBInstanceStorage	Integer	Yes	Yes	The storage space of a database instance.	Valid values for MySQL : 5 to 1000 . Valid values for SQLServer : 10 to 1000 . Valid values for PostgreSQL : 5 to 2000. Valid values for PPAS: 5 to 2000. Unit: GB. The storage space increases or decreases by 5 GB.

Name	Type	Required	Editable	Description	Validity
DBInstanceDescription	String	No	No	The description or additional information of a database instance.	The description must be 2 to 256 characters in length, including letters, digits, underscores (_), and hyphens (-). It must start with a letter and must not start with http:// and https://.
Tags	Map	No	Yes	The instance tags.	None
Period	Number	Yes	No	The subscription period.	Valid values for monthly subscription : 1 to 9. Valid values for annual subscription : 1 to 3.
MasterUserPassword	String	No	No	The password used to log on to the primary account of a database instance.	The password must be 6 to 32 characters in length, including letters, digits, and underscores (_).

Name	Type	Required	Editable	Description	Validity
AllocatePublicConnection	Boolean	No	No	This parameter specifies whether to apply for a connection string to access the public network.	None

DBMappings syntax

```
" DBMappings ": [
  {
    " DBDescription ": String ,
    " CharacterSetName ": String ,
    " DBName ": String
  }
]
```

DBMappings properties

Name	Type	Required	Editable	Description	Validity
DBDescription	String	No	No	The database description.	The description must be 2 to 256 characters in length, including letters, digits, underscores (_), and hyphens (-). It must start with a letter and must not start with http:// or https://.

Name	Type	Required	Editable	Description	Validity
CharacterSetName	String	Yes	No	The name of a character set.	Valid values : utf8, gbk , latin1, utf8mb4, _Chinese_PRC_CI_AS, Chinese_PRC_CS_AS, SQL_Latin1_General_CP1_CI_AS, SQL_Latin1_General_CP1_CS_AS , and Chinese_PRC_BIN. Valid values for MySQL : utf8, gbk, latin1, and utf8mb4 (applicable to versions 5.5 and 5.6). Valid values for SQL Server: Chinese_PRC_CI_AS, Chinese_PRC_CS_AS, SQL_Latin1_General_CP1_CI_AS, SQL_Latin1_General_CP1_CS_AS , and Chinese_PRC_BIN.

Name	Type	Required	Editable	Description	Validity
DBName	String	Yes	No	The database name.	A valid name must be a unique string of characters. The name can be up to 64 characters in length, including lowercase letters, digits, and underscores (_). It must start with a letter.

Response parameters

Fn::GetAtt

- **InnerPort:** the intranet port of the database instance.
- **OrderId:** the order ID.
- **PublicConnectionString:** the connection string used to access the public network.
- **InnerIPAddress:** the private IP address of the database instance.
- **DBInstanceId:** the ID of the database instance.
- **PublicIPAddress:** the public IP address of the database instance.
- **PublicPort:** the public network port of the database instance.
- **InnerConnectionString:** the connection string used to access the intranet.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Parameters": {
    "PeriodType": {
      "Type": "String",
      "Description": "Charge period for created instances"
    },
    "AllowedValues": [
      "Month",
      "Year"
    ]
  },
}
```

```

    " Default ": " Month "
  },
  " PrivateIpA ddress ": {
    " Type ": " String ",
    " Descriptio n ": " The private ip for created
instance ."
  },
  " DBInstance NetType ": {
    " Type ": " String ",
    " Descriptio n ": " Database instance net type , default
is Intranet . Internet for public access , Intranet for
private access .",
    " AllowedVal ues ": [
      " Internet ",
      " Intranet "
    ],
    " Default ": " Intranet "
  },
  " AutoRenew ": {
    " Type ": " Boolean ",
    " Descriptio n ": " Auto renew the prepay instance .
If the period type is by year , it will renew by
year , else it will renew by month .",
    " AllowedVal ues ": [
      " True ",
      " true ",
      " False ",
      " false "
    ],
    " Default ": false
  },
  " PreferredB ackupPerio d ": {
    " Type ": " CommaDelim itedList ",
    " Descriptio n ": " Automate backups cycle if automated
backups are enabled .",
    " AllowedVal ues ": [
      " Monday ",
      " Tuesday ",
      " Wednesday ",
      " Thursday ",
      " Friday ",
      " Saturday ",
      " Sunday "
    ]
  },
  " DBInstance Storage ": {
    " Type ": " Number ",
    " Descriptio n ": " 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 "
  },
  " CommodityC ode ": {
    " Type ": " String ",
    " Descriptio n ": " The CommodityC ode of the order
.",
    " AllowedVal ues ": [
      " rds ",
      " bards ",
      " rords "
    ],
    " Default ": " rds "
  },
},

```

```

    " DBMappings ": {
      " Type ": " CommaDelimitedList ",
      " Description ": " Database mappings to attach to db
instance ."
    },
    " 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 now . ",
      " AllowedValues ": [
        " MySQL ",
        " SQLServer ",
        " PostgreSQL ",
        " PPAS "
      ]
    },
    " 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 , such 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 string ."
    },
    " EngineVersion ": {
      " Type ": " String ",
      " Description ": " Database instance version of the
relative engine type . Support MySQL : 5 . 5 / 5 . 6 / 5
. 7 ; SQLServer : 2008r2 , 2012 , 2012_web , 2012_std_h a
, 2012_ent_h a , 2016_web , 2016_std_h a , 2016_ent_h a ;
PostgreSQL : 9 . 4 ; PPAS : 9 . 3 . ",
      " AllowedValues ": [
        " 5 . 5 ",
        " 5 . 6 ",
        " 5 . 7 ",
        " 2008r2 ",
        " 2012 ",
        " 2012_web ",
        " 2012_std_h a ",
        " 2012_ent_h a ",
        " 2016_web "
      ]
    }
  }

```

```

        " 2016_std_h a ",
        " 2016_ent_h a ",
        " 9 . 4 ",
        " 9 . 3 "
    ]
},
" ZoneId ": {
    " Type ": " String ",
    " Descriptio n ": " selected zone to create database
instance . You cannot set the ZoneId parameter if the
MultiAZ parameter is set to true ."
},
" DBInstance Class ": {
    " Type ": " String ",
    " Descriptio n ": " Database instance type . Refer the
RDS database instance type reference , such as ' rds
. mys2 . large ', ' rds . mss1 . large ', ' rds . pg . s1 . small '
etc "
},
" AllocatePu blicConnec tion ": {
    " Type ": " Boolean ",
    " Descriptio n ": " If true , allocate public connection
automate .",
    " AllowedVal ues ": [
        " True ",
        " true ",
        " False ",
        " false "
    ]
},
" PreferredB ackupTime ": {
    " Type ": " String ",
    " Descriptio n ": " The daily time range during which
automated backups are created if automated backups
are enabled .",
    " AllowedVal ues ": [
        " 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 ",
        " 23 : 00Z - 24 : 00Z "
    ]
},
" VSwitchId ": {
    " Type ": " String ",

```

```

    "Description": "The vSwitch id of created instance. For VPC network, the property is required.",
  },
  "Quantity": {
    "Type": "Number",
    "Description": "The number of instance to be created, default is 1, max number is 99",
    "MinValue": 1,
    "MaxValue": 99,
    "Default": 1
  },
  "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
  },
  "MasterUser Password": {
    "Type": "String",
    "Description": "The master password for the database instance.",
    "MinLength": 8,
    "MaxLength": 32
  },
  "CouponCode": {
    "Type": "String",
    "Description": "The coupon code of the order."
  },
  "MasterUser Type": {
    "Type": "String",
    "Description": "Privilege type of account. \n Normal: Common privilege. \n 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. \n Other accounts are created by the initial account that has logged on to the database.",
    "AllowedValues": [
      "Normal",
      "Super"
    ],
    "Default": "Normal"
  },
  "VpcId": {
    "Type": "String",
    "Description": "The VPC id of created database instance. For VPC network, the property is required."
  },
  "MasterUser name": {
    "Type": "String",
    "Description": "The master user name for the database instance."
  },
  "Connection Mode": {
    "Type": "String",
    "Description": "Connection Mode for database instance, support 'Performance' and 'Safty' mode. Default is RDS system assigns.",
    "AllowedValues": [
      "Performance",

```

```

    " Safty "
  ]
},
" BackupRetentionPeriod ": {
  " Type ": " Number ",
  " Description ": " The number of days for which
automatic DB backups are retained .",
  " MinValue ": 7 ,
  " MaxValue ": 30 ,
  " Default ": 7
}
},
" Resources ": {
  " PrepayDBInstance ": {
    " Type ": " ALIYUN :: RDS :: PrepayDBInstance ",
    " Properties ": {
      " PeriodType ": {
        " Ref ": " PeriodType "
      },
      " PrivateIpAddress ": {
        " Ref ": " PrivateIpAddress "
      },
      " DBInstanceNetType ": {
        " Ref ": " DBInstanceNetType "
      },
      " AutoRenew ": {
        " Ref ": " AutoRenew "
      },
      " PreferredBackupPeriod ": {
        " Fn :: Split ": [
          "",
          {
            " Ref ": " PreferredBackupPeriod "
          },
          {
            " Ref ": " PreferredBackupPeriod "
          }
        ]
      },
      " DBInstanceStorage ": {
        " Ref ": " DBInstanceStorage "
      },
      " CommodityCode ": {
        " Ref ": " CommodityCode "
      },
      " DBMappings ": {
        " Fn :: Split ": [
          "",
          {
            " Ref ": " DBMappings "
          },
          {
            " Ref ": " DBMappings "
          }
        ]
      },
      " MultiAZ ": {
        " Ref ": " MultiAZ "
      },
      " Engine ": {
        " Ref ": " Engine "
      },
      " DBInstanceDescription ": {
        " Ref ": " DBInstanceDescription "
      }
    }
  }
}

```

```

    },
    "Tags ": {
      "Ref ": "Tags "
    },
    "EngineVersion ": {
      "Ref ": "EngineVersion "
    },
    "ZoneId ": {
      "Ref ": "ZoneId "
    },
    "DBInstanceClass ": {
      "Ref ": "DBInstanceClass "
    },
    "AllocatePublicConnection ": {
      "Ref ": "AllocatePublicConnection "
    },
    "PreferredBackupTime ": {
      "Ref ": "PreferredBackupTime "
    },
    "VSwitchId ": {
      "Ref ": "VSwitchId "
    },
    "Quantity ": {
      "Ref ": "Quantity "
    },
    "Period ": {
      "Ref ": "Period "
    },
    "MasterUserPassword ": {
      "Ref ": "MasterUserPassword "
    },
    "CouponCode ": {
      "Ref ": "CouponCode "
    },
    "MasterUserType ": {
      "Ref ": "MasterUserType "
    },
    "VpcId ": {
      "Ref ": "VpcId "
    },
    "MasterUserName ": {
      "Ref ": "MasterUserName "
    },
    "ConnectionMode ": {
      "Ref ": "ConnectionMode "
    },
    "BackupRetentionPeriod ": {
      "Ref ": "BackupRetentionPeriod "
    }
  },
  "Outputs ": {
    "InnerConnectionString ": {
      "Description ": "DB instance connection url by
Intranet .",
      "Value ": {
        "Fn :: GetAtt ": [
          "PrepayDBInstance ",
          "InnerConnectionString "
        ]
      }
    }
  },
  "DBInstanceId ": {

```

```

    "Description": "The instance id of created database instance.",
    "Value": {
      "Fn::GetAtt": [
        "PrepayDBInstance",
        "DBInstanceIdentifier"
      ]
    }
  },
  "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"
    ]
}
}
```

11 Redis

11.1 ALIYUN::REDIS::PrepayInstance

ALIYUN::REDIS::PrepayInstance is used to create a pre-paid ApsaraDB for Redis instance.

Syntax

```
{
  "Type": "ALIYUN::REDIS::PrepayInstance",
  "Properties": {
    "VpcId": String,
    "EvictionPolicy": String,
    "Period": Integer,
    "ZoneId": String,
    "InstanceClass": String,
    "VSwitchId": String,
    "Password": String,
    "InstanceName": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
VpcId	String	No	No	The ID of the VPC to which the ApsaraDB for Redis instance belongs.	None
EvictionPolicy	String	No	No	The data eviction policy for the ApsaraDB for Redis instance.	Valid values: noeviction, allkeys-lru, volatile-lru, allkeys-random, volatile-random, and volatile-ttl.

Name	Type	Required	Editable	Description	Validity
Period	Integer	No	No	The renewal period of the subscription-based instance. Unit: month.	Valid values : 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 24, and 36.
ZoneId	String	No	No	The ID of the zone where the ApsaraDB for Redis instance resides.	None

Name	Type	Required	Editable	Description	Validity
InstanceClass	String	No	No	The specifications of the ApsaraDB for Redis instance.	Capacity : 1 GB. Specifications: redis.master.small.default. Capacity : 2 GB. Specifications: redis.master.mid.default. Capacity : 4 GB. Specifications: redis.master.stand.default. Capacity : 8 GB. Specifications: redis.master.large.default. Capacity : 16 GB. Specifications: redis.master.2xlarge.default. Capacity : 32 GB. Specifications: redis.master.4xlarge.default. Capacity : 64 GB. Specifications: redis.master.8xlarge.default.

Name	Type	Required	Editable	Description	Validity
VSwitchId	String	No	No	The ID of the VSwitch in the VPC.	None
Password	String	No	No	The password used to log on to the ApsaraDB for Redis instance.	The password must be 8 to 30 characters in length and must contain both digits and letters.
InstanceName	String	No	No	The name of the ApsaraDB for Redis 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.

Response parameters

Fn::GetAtt

- **InstanceId:** the ID of the ApsaraDB for Redis instance, which is globally unique.
- **OrderId:** the order ID of the ApsaraDB for Redis instance.
- **ConnectionDomain:** the domain name used to connect to the ApsaraDB for Redis instance.
- **Port:** the port used to connect to the ApsaraDB for Redis instance.

Examples

```
{
```

```

" ROSTemplateFormatVersion ": " 2015 - 09 - 01 ",
" Parameters ": {
  " InstanceName ": {
    " Type ": " String ",
    " Description ": " The name of the ApsaraDB for
Redis instance . The name must be 2 to 128
characters in length and can contain letters , digits ,
underscore s ( _ ), hyphens ( - ), and periods ( . ). It must
start with a letter . "
  },
  " VpcId ": {
    " Type ": " String ",
    " Description ": " The ID of the VPC to which
the ApsaraDB for Redis instance belongs . "
  },
  " EvictionPolicy ": {
    " Type ": " String ",
    " Description ": " The eviction policy of cache data
storage . " ,
    " AllowedValues ": [
      " noeviction ",
      " allkeys - lru ",
      " volatile - lru ",
      " allkeys - random ",
      " volatile - random ",
      " volatile - ttl "
    ]
  },
  " ZoneId ": {
    " Type ": " String ",
    " Description ": " The ID of the zone where the
ApsaraDB for Redis instance resides . "
  },
  " VSwitchId ": {
    " Type ": " String ",
    " Description ": " The ID of the VSwitch used for
the ApsaraDB for Redis instance . "
  },
  " Period ": {
    " Type ": " Number ",
    " Description ": " The renewal period of the
subscription - based instance . Valid values : 1 , 2 , 3 ,
4 , 5 , 6 , 7 , 8 , 9 , 12 , 24 , and 36 . Unit : month
. " ,
    " AllowedValues ": [
      1 ,
      2 ,
      3 ,
      4 ,
      5 ,
      6 ,
      7 ,
      8 ,
      9 ,
      12 ,
      24 ,
      36
    ] ,
    " Default ": 1
  },
  " InstanceClass ": {
    " Type ": " String ",
    " Description ": " The specifications of the
ApsaraDB for Redis instance . Refer to the ApsaraDB

```

```

for Redis instance types , such as redis . master . small
. default , redis . master . 4xlarge . default , and redis .
sharding . mid . default ."
    },
    " Password ": {
        " Type ": " String ",
        " Descriptio n ": " The password used to log on to
the ApsaraDB for Redis instance . The password must
be 8 to 30 characters in length and must contain
both digits and letters ."
    }
},
" Resources ": {
    " KvPrepayIn stance ": {
        " Type ": " ALIYUN :: REDIS :: PrepayInst ance ",
        " Properties ": {
            " InstanceNa me ": {
                " Ref ": " InstanceNa me "
            },
            " VpcId ": {
                " Ref ": " VpcId "
            },
            " EvictionPo licy ": {
                " Ref ": " EvictionPo licy "
            },
            " ZoneId ": {
                " Ref ": " ZoneId "
            },
            " VSwitchId ": {
                " Ref ": " VSwitchId "
            },
            " Period ": {
                " Ref ": " Period "
            },
            " InstanceCl ass ": {
                " Ref ": " InstanceCl ass "
            },
            " Password ": {
                " Ref ": " Password "
            }
        }
    }
},
" Outputs ": {
    " Connection Domain ": {
        " Descriptio n ": " The domain name used to connect
to the ApsaraDB for Redis instance .",
        " Value ": {
            " Fn :: GetAtt ": [
                " KvPrepayIn stance ",
                " Connection Domain "
            ]
        }
    },
    " InstanceId ": {
        " Descriptio n ": " The ID of the ApsaraDB for
Redis instance .",
        " Value ": {
            " Fn :: GetAtt ": [
                " KvPrepayIn stance ",
                " InstanceId "
            ]
        }
    }
},

```

```

    " Port ": {
      " Description ": " The port used to connect to the
ApsaraDB for Redis instance .",
      " Value ": {
        " Fn :: GetAtt ": [
          " KvPrepayIn stance ",
          " Port "
        ]
      }
    },
    " OrderId ": {
      " Description ": " The order ID of the ApsaraDB
for Redis instance .",
      " Value ": {
        " Fn :: GetAtt ": [
          " KvPrepayIn stance ",
          " OrderId "
        ]
      }
    }
  }
}

```

12 ROS

13 SLB

13.1 ALIYUN::SLB::Certificate

Uploads the server certificate and CA certificate (if required) to the SLB instance.



Notice:

- You can only upload one CA certificate at a time. CertificateType: CA.
- You can only upload one server certificate and the matching private key at a time. Certificate type: Server.

Syntax

```
{
  " Type ": " ALIYUN :: SLB :: Certificat e ",
  " Properties ": {
    " Certificat eName ": String ,
    " Certificat e ": String ,
    " AliCloudCe rtificateN ame ": String ,
    " PrivateKey ": String ,
    " AliCloudCe rtificateI d ": String ,
    " Certificat eType ": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Certificat eName	String	No	Yes	The certificate name.	N/A
Certificate	String	Yes	No	The certificate.	N/A
AliCloudCe rtificateN ame	String	No	No	The name of the Alibaba Cloud certificate.	N/A
PrivateKey	String	No	No	The private key to be uploaded.	N/A

Name	Type	Required	Editable	Description	Validity
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.	N/A
CertificateType	String	No	No	The certificate type.	Valid value: Server.

Response elements

Fn::GetAtt

- **CertificateId:** indicates the certificate ID.
- **Fingerprint:** indicates the certificate fingerprint.

Example

```
{
  "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."
    },
    "CertificateName": {
      "Type": "String",

```

```

    "Description": "The name of the certificate.",
  },
  "Certificate": {
    "Type": "String",
    "Description": "The content of the certificate public key.",
  },
  "AliCloudCertificateId": {
    "Type": "String",
    "Description": "The ID of the Alibaba Cloud certificate.",
  },
},
"Resources": {
  "Certificate": {
    "Type": "ALIYUN::SLB::Certificate",
    "Properties": {
      "CertificateType": {
        "Ref": "CertificateType"
      },
      "AliCloudCertificateName": {
        "Ref": "AliCloudCertificateName"
      },
      "PrivateKey": {
        "Ref": "PrivateKey"
      },
      "CertificateName": {
        "Ref": "CertificateName"
      },
      "Certificate": {
        "Ref": "Certificate"
      },
      "AliCloudCertificateId": {
        "Ref": "AliCloudCertificateId"
      }
    }
  },
},
"Outputs": {
  "Fingerprint": {
    "Description": "The fingerprint of the certificate.",
    "Value": {
      "Fn::GetAtt": [
        "Certificate",
        "Fingerprint"
      ]
    }
  },
  "CertificateId": {
    "Description": "The ID of the certificate.",
    "Value": {
      "Fn::GetAtt": [
        "Certificate",
        "CertificateId"
      ]
    }
  }
}
}

```

```
}
```

13.2 ALIYUN::SLB::DomainExtension

Creates a domain name extension.

Syntax

```
{
  "Type": "ALIYUN::SLB::DomainExtension",
  "Properties": {
    "Domain": String,
    "ListenerPort": Integer,
    "ServerCertificateId": String,
    "LoadBalancerId": String
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
Domain	String	Yes	No	The domain name.	N/A
ListenerPort	Integer	Yes	No	The frontend port used to receive requests and forward the requests to backend servers over the HTTPS protocol.	Valid values: 1 to 65535.
ServerCertificateId	String	Yes	Yes	The ID of the certificate that is issued for the domain name.	N/A
LoadBalancerId	String	Yes	No	The SLB instance ID.	N/A

Response elements

Fn::GetAtt

- **DomainExtensionId**: indicates the ID of the domain name extension.
- **ListenerPort**: indicates the frontend port used to receive requests and forward the requests to backend servers..

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "DomainExtension": {
      "Type": "ALIYUN::SLB::DomainExtension",
      "Properties": {
        "Domain": "*.example1.com",
        "ListenerPort": "443",
        "ServerCertificateId": "1231579085_52_****_166f8204689_1714763_408_70998_****",
        "LoadBalancerId": "lb-bp1o94dp5i6earr9g****"
      }
    }
  },
  "Outputs": {
    "DomainExtensionId": {
      "Value": {
        "Fn::GetAtt": [
          "DomainExtension",
          "DomainExtensionId"
        ]
      }
    },
    "ListenerPort": {
      "Value": {
        "Fn::GetAtt": [
          "DomainExtension",
          "ListenerPort"
        ]
      }
    }
  }
}
```

13.3 ALIYUN::SLB::Listener

Creates a listener for your server load balancer (SLB) instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::Listener",
  "Properties": {
    "Protocol": String,
    "HealthCheck": Map,
    "ListenerPort": Integer,
    "Persistence": Map,
    "Bandwidth": Integer,
    "BackendServerPort": Integer,
    "Scheduler": String,
    "LoadBalancerId": String,
    "CACertificateId": String,
```

```
    "ServerCertificateId" : String ,  
    "VServerGroupId" : String  
  }  
}
```

Properties

Property Name	Type	Required	Editable	Description	Validity
Protocol	String	Yes	No	The IP protocol.	Valid values : http https tcp udp.
ListenerPort	Integer	Yes	No	The frontend port used to receive requests and forward the requests to backend servers.	Value range: 1 to 65535.

Property Name	Type	Required	Editable	Description	Validity
Bandwidth	Integer	Yes	No	The peak bandwidth of the SLB listener.	Valid values : -1 1 to 1000. Unit: Mbit/s. For an instance that is connected to the public network and billed by bandwidth , the parameter cannot be set to -1, and the sum of the peak bandwidth assigned to each listener cannot exceed the bandwidth limit specified when the SLB instance is created . For an instance that is connected to the public network and billed by traffic, the parameter can be set to -1, indicating that no peak bandwidth limit is applied.

Property Name	Type	Required	Editable	Description	Validity
BackendServerPort	Integer	Yes	No	The backend port used to receive requests.	Value range: 1 to 65535.
LoadBalancerId	String	Yes	No	The ID of the SLB instance.	N/A
HealthCheck	Map	No	No	The health check settings.	N/A
Persistence	Map	No	No	Specifies persistence properties.	N/A
Scheduler	String	No	No	The algorithm for directing traffic to individual servers.	Valid values : wrr wlc. Default value: wrr.
CACertificateId	String	No	No	The ID of a certificate issued by a certification authority (CA).	The CA certificate is only applicable to HTTPS listeners.
ServerCertificateId	String	No	No	The ID of the server certificate.	This parameter is required and only applicable to HTTPS listeners.
VServerGroupId	String	No	No	The ID of the VServer group.	N/A

HealthCheck syntax

```
"HealthCheck" : {
```

```

" Domain " : String ,
" Interval " : Integer ,
" URI " : String ,
" HttpStatusCode " : String ,
" HealthyThreshold " : Integer ,
" Timeout " : Integer ,
" UnhealthyThreshold " : Integer ,
" Port " : Integer
}

```

HealthCheck properties

Name	Type	Required	Editable	Description	Validity
Domain	String	No	No	The domain name used for health checks.	Valid values : \$_ip custom string null. A custom string must be 1 to 80 characters in length and can contain letters , digits, hyphens (-), and periods (.) only. When this parameter is set to \$_ip or null, the SLB instance uses the private IP addresses of backend servers as the domains for health checks.

Name	Type	Required	Editable	Description	Validity
Interval	Integer	No	No	The time interval between two consecutive health checks.	Value range: 1 to 5. Unit: second.
URI	String	No	No	The URI used for health checks.	The value must be 1 to 80 characters in length, including letters, digits, hyphens (-), slashes (/), periods (.), percent signs (%), question marks (?), number signs (#), and ampersands (&). It must start with a slash (/).

Name	Type	Required	Editable	Description	Validity
HttpCode	String	No	No	The HTTP status code that indicates a positive health status of the servers.	Use half-width commas (,) to separate multiple HTTP status codes. Valid values : http_2xx http_3xx http_4xx http_5xx. Default value: http_2xx.
HealthyThreshold	Integer	No	No	The threshold used to determine that the servers are in a healthy state . This value indicates the number of consecutive successful health checks that are required to change the health status of the backend servers from fail to success.	Value range: 1 to 10.

Name	Type	Required	Editable	Description	Validity
Timeout	Integer	No	No	The maximum response time for a health check .	Value range: 1 to 50. Unit : second.  Notice: This parameter is only applicable when the Timeout value is equal to or greater than the Interval value. Otherwise, this parameter is overridden by the Interval value.

Name	Type	Required	Editable	Description	Validity
UnhealthyThreshold	Integer	No	No	The threshold used to determine that the servers are not in a healthy state. This value indicates the number of consecutive failed health checks that are required to change the health status of the backend servers from success to fail.	Value range: 1 to 10.
Port	Integer	No	No	The port used for health checks.	Value range: 0 to 65535.

Persistence syntax

```
" Persistence " : {
  " PersistenceTimeout " : Integer ,
  " CookieTimeout " : Integer ,
  " XForwardedFor " : String ,
  " Cookie " : String ,
  " StickySession " : String ,
  " StickySessionType " : String ,
```

}

Persistence properties

Name	Type	Required	Editable	Description	Validity
StickySession	String	Yes	No	Specifies whether to enable session persistence.	Valid values : on off.
PersistenceTimeout	Integer	No	No	The maximum duration the client is connected to the server.	Value range : 0 to 1000. Unit: second. Default value: 0. The value 0 indicates that the connection is disabled.
CookieTimeout	Integer	No	No	The maximum duration a cookie can be retained before it expires.	This parameter is required if the StickySession parameter is set to on and the StickySessionType parameter is set to insert. In other cases, this parameter is inapplicable. Value range : 1 to 86400. Unit: second.

Name	Type	Required	Editable	Description	Validity
XForwardedFor	String	No	No	Specifies whether to use the X-Forwarded-For record to obtain visitors' real IP addresses .	Valid values : on off. Default value: on.

Name	Type	Required	Editable	Description	Validity
Cookie	String	No	No	A cookie set by the server.	This parameter is required when the StickySession parameter is set to on and the StickySessionType parameter is set to server. In other cases, this parameter is inapplicable. The parameter must be 1 to 200 characters in length and follow the RFC 2965 standard. It can contain only ASCII characters, excluding commas (,), semicolons (;), or spaces, and cannot start with a dollar sign (\$).

Name	Type	Required	Editable	Description	Validity
StickySessionType	String	No	No	The method used to handle cookies.	This parameter is required when the StickySession parameter is set to on. When the StickySession parameter is set to off, this parameter is inapplicable. Valid values: insert server. The value insert indicates that the SLB instance inserts cookies into the response message that is returned by the backend servers. The value "server" indicates that the SLB instance reads cookies from the backend servers.

Response elements

Fn::GetAtt

- **LoadBalancerId**: indicates the unique ID of the SLB instance.
- **ListenerPortsAndProtocol**: indicates the ports and protocols used by the SLB listener, displayed in an array.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "LoadBalancer": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "LoadBalancerName": "createdByHeat",
        "AddressType": "internet",
        "InternetChargeType": "paybybandwidth"
      }
    },
    "CreateListener": {
      "Type": "ALIYUN::SLB::Listener",
      "Properties": {
        "LoadBalancerId": {"Ref": "LoadBalancer"},
        "ListenerPort": "8094",
        "BackendServerPort": "8080",
        "Bandwidth": "1",
        "Protocol": "http",
        "HealthCheck": {
          "HealthyThreshold": "3",
          "UnhealthyThreshold": "3",
          "Interval": "2",
          "Timeout": "5",
          "HttpCode": "http_2xx , http_3xx , http_4xx , http_5xx"
        }
      },
      "Scheduler": "wrr",
      "Persistence": {
        "PersistenceTimeout": "1",
        "XForwardedFor": "1",
        "StickySession": "1",
        "StickySessionType": "1",
        "CookieTimeout": "0",
        "Cookie": "1"
      }
    }
  },
  "Outputs": {
    "LoadBalancerDetails": {
      "Value": {"Fn::GetAtt": ["LoadBalancer", "LoadBalancerId"]}
    }
  }
}
```

```
}
```

13.4 ALIYUN::SLB::LoadBalancer

Creates a server load balancer (SLB) instance.

Syntax

```
{
  "Type": "ALIYUN::SLB::LoadBalancer",
  "Properties": {
    "VpcId": String,
    "SlaveZoneId": String,
    "Bandwidth": Integer,
    "AddressType": String,
    "VSwitchId": String,
    "LoadBalancerName": String,
    "InternetChargeType": String,
    "MasterZoneId": String,
    "Tags": List
  }
}
```

Properties

Name	Type	Required	Editable	Description	Validity
VpcId	String	No	No	The VPC ID.	N/A
SlaveZoneId	String	No	No	The ID of the standby zone where the instance is to be created.	N/A

Name	Type	Required	Editable	Description	Validity
Bandwidth	Integer	No	No	The peak bandwidth of an instance that is connected to the public network and billed by fixed bandwidth.	For an instance that is connected to the public network and billed by bandwidth, the parameter is only applicable when the Bandwidth parameter of the SLB listener is specified. For an instance that is connected to the public network and billed by traffic, the parameter is inapplicable. To set the peak bandwidth of the instance, specify the Bandwidth parameter of the SLB listener. Value range : 1 to 1,000. Unit: Mbit/s. Default value: 1.
Issue: 20190422					VPC-connected instances ³⁸¹ are billed by

Name	Type	Required	Editable	Description	Validity
AddressType	String	No	No	The address type of the SLB instance.	Valid values : internet intranet. Default value: internet.
VSwitchId	String	No	No	The ID of the VSwitch that is connected to the VPC.	N/A
LoadBalancerName	String	No	No	The SLB instance name.	The name must be 1 to 80 characters in length, including letters, digits, hyphens (-), slashes (/), periods (.), and underscores (_). A name is assigned by the system by default if this parameter is unspecified.
InternetChargeType	String	No	No	The billing method of an instance that is connected to the public network.	Valid values: paybybandwidth paybytraffic. Default value: paybytraffic.

Name	Type	Required	Editable	Description	Validity
MasterZoneId	String	No	No	The ID of the active zone where the SLB instance is to be created .	N/A
Tags	List	No	No	The list of tags attached to the SLB instance. The tags are listed in JSON format , describing the TagKey parameter and the TagValue parameter.	A maximum of 5 tags can be attached.

Name	Type	Required	Editable	Description	Validity
LoadBalancerSpec	String	No	No	The SLB instance type. Valid values: · slb.s1.small · slb.s2.small · slb.s2.medium · slb.s3.small · slb.s3.medium · slb.s3.large The available types vary by region. For more information, see Guaranteed-performance instances.	N/A

Tags syntax

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

Tags Properties

Name	Type	Required	Editable	Description	Validity
Key	String	Yes	No	None	N/A
Value	String	No	No	None	N/A

Response elements

Fn::GetAtt

- **LoadBalancerId**: indicates the unique ID of the SLB instance.
- **NetworkType**: indicates the network type of the SLB instance. Valid values: vpc | classic.
- **AddressType**: indicates the address type of the SLB instance. Valid values: intranet | internet.
- **IpAddress**: indicates the IP address of the SLB instance.

Example

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "CreateLoadBalance": {
      "Type": "ALIYUN::SLB::LoadBalancer",
      "Properties": {
        "LoadBalancerName": "createdByHeat",
        "AddressType": "internet",
        "InternetChargeType": "paybybandwidth",
      }
    }
  },
  "Outputs": {
    "LoadBalancerDetails": {
      "Value": {
        "Fn::GetAtt": ["CreateLoadBalance", "LoadBalancerId"]
      }
    }
  }
}
```

13.5 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 back-end servers in the primary/secondary server group.	A primary/secondary server group can contain a maximum of two back-end servers. If you do not specify this parameter, an empty list is created.
LoadBalancerId	String	Yes	No	The ID of a Server Load Balancer (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 ENI to be added.	None
ServerType	String	No	No	The server type.	Valid values : Master and Slave. Default value: Master.
Port	Integer	Yes	No	The port number used by the back-end server.	Valid values : 1 to 65,535.
Weight	Integer	Yes	No	The weight of the back-end 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 "
    },
    ],
    " LoadBalanc erId ": " lb - bp1hv944r6 9al4j9jkmv x "
}
}
},
" Outputs ": {
    " MasterSlav eServerGro upId ": {
        " Value ": {
            " Fn :: GetAtt ": [
                " MasterSlav eServerGro up ",
                " MasterSlav eServerGro upId "
            ]
        }
    }
}
}
}
}

```

14 VPC

14.1 ALIYUN::VPC::EIP

The ALIYUN::VPC::EIP resource applies for an EIP address.

Syntax

```
{
  " Type ": " ALIYUN :: VPC :: EIP ",
  " Properties ": {
    " Bandwidth ": Number ,
    " InternetChargeType ": String ,
    " InstanceChargeType ": String ,
    " PricingCycle ": String : String ,
    " Period ": Number ,
    " AutoPay ": Boolean ,
    " Isp ": String
  }
}
```

Properties

Name	Type	Required	Update allowed	Description	Restrictions
Bandwidth	Number	No	No	The bandwidth.	The default bandwidth is 5 Mbit/s.
InternetChargeType	String	No	No	The billing method of EIP.	Valid values: - PayByBandwidth (default): EIP is billed based on the bandwidth. - PayByTraffic : EIP is billed based on the traffic usage.

Name	Type	Required	Update allowed	Description	Restrictions
InstanceChargeType	String	No	No	The billing method of EIP.	Valid values: - Prepaid - Subscription. - PostPaid (default): Pay-As-You-Go
PricingCycle	String	No	No	The billing cycle of the subscription	Value: - Month (default): Monthly subscription. - Year : Annual subscription.  Note: You must set this parameter when the InstanceChargeType parameter is set to Prepaid .

Name	Type	Required	Update allowed	Description	Restrictions
Period	Number	No	No	The subscription period.	Valid values: - For monthly subscription, valid values are from 1 to 9 months. - For annual subscription, valid values are from 1 to 3 months. The default value is 1.  Note: You must set this parameter when the InstanceChargeType parameter is set to Prepaid .

Name	Type	Required	Update allowed	Description	Restrictions
AutoPay	Boolean	No	No	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.  Note: You must set this parameter when the InstanceChargeType parameter is set to Prepaid .

Name	Type	Required	Update allowed	Description	Restrictions
Isp	String	No	No	The ISP tag that is used in Finance Cloud and only takes effect when your region is set to China (Hangzhou).	This parameter will be ignored if you are not a Finance Cloud user.

Return values

Fn::GetAtt

- **EipAddress:** The EIP address that is assigned.
- **AllocationId:** The instance ID of the instance that the EIP address is assigned to.
- **OrderId:** The ID of the order that is returned to you if you choose Subscription.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Eip": {
      "Type": "ALIYUN::VPC::EIP",
      "Properties": {
        "InternetChargeType": "PayByTraffic",
        "Bandwidth": 200
      }
    }
  },
  "Outputs": {
    "EipAddress": {
      "Value": {"Fn::GetAtt": ["Eip", "EipAddress"]}
    },
    "AllocationId": {
      "Value": {"Fn::GetAtt": ["Eip", "AllocationId"]}
    },
    "OrderId": {
      "Value": {"Fn::GetAtt": ["Eip", "OrderId"]}
    }
  }
}
```

```
}
```

14.2 ALIYUN::VPC::EIPAssociation

The ALIYUN::VPC::EIPAssociation resource assigns an EIP address to an Alibaba Cloud service instance.

Syntax

```
{
  "Type": "ALIYUN::VPC::EIPAssociation",
  "Properties": {
    "AllocationId": String,
    "InstanceId": String
  }
}
```

Properties

Name	Type	Required	Allow updates	Description	Restrictions
AllocationId	String	Yes	No	The ID of the EIP address that you want to associate with the instance specified by the InstanceId property.	None

Name	Type	Required	Allow updates	Description	Restrictions
InstanceId	String	Yes	No	The ID of the instance that you want to associate with the EIP address specified by the AllocationId property.	Supported instance types: · VPC-connected ECS instances · VPC-connected SLB instances · NAT Gateway · HAVIP · Elastic Network Interface

Return values

Fn::GetAtt

- **EipAddress:** The assigned EIP address.
- **AllocationId:** The instance ID of the Alibaba Cloud service instance that the EIP address is assigned to.

Examples

```
{
  "ROSTemplateFormatVersion": "2015-09-01",
  "Resources": {
    "Eip": {
      "Type": "ALIYUN::VPC::EIP",
      "Properties": {
        "InternetChargeType": "PayByTraffic",
        "Bandwidth": 200
      }
    },
    "EipAssociation": {
      "Type": "ALIYUN::VPC::EIPAssociation",
      "Properties": {
        "InstanceId": "<LoadBalancerId>",
        "InstanceType": "EcsInstance",
        "AllocationId": {
          "Fn::GetAtt": ["Eip", "AllocationId"]
        }
      }
    }
  }
}
```

```
    }
  },
  "Outputs": {
    "EipAddress": {
      "Value": {"Fn::GetAtt": ["EipAssocia tion", "
EipAddress"]}
    },
    "Allocation Id": {
      "Value": {"Fn::GetAtt": ["EipAssocia tion", "
Allocation Id"]}
    }
  }
}
```