

Alibaba Cloud Elastic Compute Service

API Reference

Issue: 20180925

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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.	 Note: 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 a optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand slave}</code>

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1 Ram user authorization

1.1 Overview

By default, you have full operation permissions on your resources, and you can use all APIs described in this document to operate on your resources. You can use your Alibaba Cloud account to create RAM users, and an unauthorized ram user cannot operate on resources of the Alibaba Cloud account. You must grant the permission to the RAM user to operate on resources of the Alibaba Cloud account by the RAM authorization.

Make sure that you have read the [RAM](#) and [API](#) documentation carefully before you use RAM to authorize access to ECS instances.

Skip this section if you do not need to grant an RAM user to access ECS instance resources in an Alibaba Cloud Account. Skipping this section does not affect your understanding and usage of the ECS API.

- [Actions in RAM that can be authorized to an ECS instance](#)
- [Authentication rules](#)

2 Introduction

This topic provides the API reference of Alibaba Cloud Elastic Compute Service (ECS). If you are familiar with Web service and one or more programming languages, we recommend that you use APIs to manage your ECS resources or develop applications. For more information, see [API overview](#).

Limits

We set limits on the number and specification for the ECS instance, disk, security group, snapshot, and network bandwidth that you can create. For more information, see [Limits](#).

Whenever the API description, optional parameter values, and available specifications conflict with the resource or specification limits described in the [Limits](#), the **Limits** topic always takes the precedence.

Methods

We allow HTTP or HTTPS requests, and so are the methods GET or POST. You can make a request by using the following approaches:

- (Recommended) Programming language-specific ECS [SDK](#)
- Alibaba Cloud [CLI](#)
- Alibaba Cloud [API Explorer](#)
- [API URL request](#)

In particular, you can skip the authentication process by using the SDK, CLI, and API Explorer. It is easier for you to get started by using the language-specific SDK instead of making a request over HTTP or HTTPS.

**Note:**

When you call API in the Alibaba Cloud CLI and SDK, remove the period (.) from the request parameters. For example, use `SystemDiskCategory` instead of `SystemDisk.Category`.

However, you must complete the authentication process for every request if you make an API URL request over the HTTP or HTTPS protocol. For more information, see [Signature](#) and [Create an AccessKey](#).

Glossary

Item	Abbreviation	Meaning
<i>Region</i>	<i>Region</i>	A specific data center established by Alibaba Cloud in which you can run your business. To decrease network latency, we have linked the regions all over the world. However, the region cannot be changed once an ECS resource is create in it.
<i>Availability Zone</i>	<i>Zone</i>	Zone for short. An area with independent power grids and networks in a specified region . Each region has one or more zones. The network latency for ECS resources within a specific zone is reduced.
<i>Instance</i>	<i>Instance</i>	A virtual computing environment that includes CPU, memory, operating system, bandwidth, disks, and other basic computing components. An ECS instance is an independent virtual machine, and is the core element of ECS. For more information, see Instance type families .
<i>Image</i>	<i>Image</i>	A running environment template for an instance. It includes an operating system and preinstalled software. You can use an image either to create an instance or change the system disk of an instance.
<i>Disk</i>	<i>Disk</i>	The storage device of instances.
<i>Security group</i>	<i>Security group</i>	An instance-related security group. An instance must

Item	Abbreviation	Meaning
		belong to at least one security group. The security policies of a security group apply to all instances in the group.
<i>Snapshot</i>	<i>Snapshot</i>	A restore point created for a disk. It contains the disk data at a specified time and can be used to restore disk data or create custom images.
<i>Tag</i>	<i>Tag</i>	Consists of a key-value pair. You can assign tags to ECS resources for fast listing and filtering.
<i>IP address</i>	<i>IP address</i>	The Internet or intranet IP address of an instance.

3 API overview

See the following tables for the ECS APIs that are available to use.

For more information, see the [API Explorer](#).

Instances

Action	Description
RunInstances	Creates a specified number of Pay-As-You-Go instances.
CreateInstance	Creates an instance.
StartInstance	Starts a specified instance.
StopInstance	Stops a specified instance.
RebootInstance	Restarts an instance.
DeleteInstance	Releases an instance.
AttachInstanceRamRole	Attaches an instance RAM role to your Instance.
DetachInstanceRamRole	Detaches a RAM role from an instance.
DescribeInstanceStatus	Obtains the list of all your instances in batches with status information.
DescribeInstances	Describes details of your instances.
DescribeInstanceVncUrl	Describes the management terminal URL before connecting to an instance.
DescribeUserData	Describes the user-defined data of an Instance.
DescribeInstanceAutoRenewAttribute	Queries the automatic renewal status of an instance.
DescribeInstanceRamRole	Describes information related to the instance RAM role.
DescribeSpotPriceHistory	Describes the price history of the preemptible instances. You can query the price records within 30 days at most.
DescribeInstanceTypeFamilies	Describes the resources list of instance type families provided by Alibaba Cloud ECS.
DescribeInstanceTypes	Describes the resources list of instance types provided by Alibaba Cloud ECS.

Action	Description
<i>ModifyInstanceVpcAttribute</i>	Modifies the attributes of a VPC to which a specified instance is connected.
<i>ModifyInstanceAttribute</i>	Modifies the information of an Instance, such as the name, password, host name, and description of an instance.
<i>ModifyInstanceVncPasswd</i>	Changes the password of management terminal used to connect a specified Instance.
<i>ModifyInstanceAutoReleaseTime</i>	Sets the automatic release time for a specified instance.
<i>ModifyInstanceAutoRenewAttribute</i>	Modifies the information of an Instance, such as the name, password, host name, and description of an instance.
<i>ModifyInstanceSpec</i>	Changes the instance type or modifies the Internet bandwidth of a Pay-As-You-Go instance.

Launch templates

Action	Description
<i>CreateLaunchTemplate</i>	Creates an instance launch template, or launch template for short. An instance launch template saves you the trouble of entering a large number of configuration parameters each time you create an instance.
<i>CreateLaunchTemplateVersion</i>	Creates a version based on the specified instance launch template.
<i>DeleteLaunchTemplate</i>	Deletes an instance launch template.
<i>DeleteLaunchTemplateVersion</i>	Deletes a specified instance launch template version. However, if the instance launch template version you intend to delete is the default version, you must use the <i>DeleteLaunchTemplate</i> API to delete the entire instance launch template.
<i>DescribeLaunchTemplates</i>	Queries available instance launch templates.
<i>DescribeLaunchTemplateVersions</i>	Queries instance launch template versions.
<i>ModifyLaunchTemplateDefaultVersion</i>	Sets a specified version of this template as the default version. If you do not specify a template

Action	Description
	version number when creating an instance (RunInstances), default version is used.

Disks

Action	Description
CreateDisk	Creates a portable data disk.
DeleteDisk	Releases an independent cloud disk when it is no longer in use.
DescribeDisks	Describes your available cloud disks.
AttachDisk	Attaches a data disk to your Instance.
DetachDisk	Detaches a cloud disk from a specified instance.
ModifyDiskAttribute	Modifies the attribute of your cloud disk.
ReplaceSystemDisk	Replaces the system disk or the operating system of an Instance.
ReInitDisk	Initializes a cloud disk to the initial state.
ResetDisk	Rolls back a disk to a specified disk state by using one of its history disk snapshots.
ResizeDisk	Extends the size of a cloud disk.

Images

Action	Description
CreateImage	Creates a custom image.
ImportImage	Imports on-premises image files to the Alibaba Cloud ECS.
ExportImage	Exports a custom image to an OSS bucket in the same region as the custom image.
CopyImage	Copies a custom image from one region to other regions.
CancelCopyImage	Cancels a pending image copy (CopyImage) operation.
DescribeImages	Describes your available image.
DeleteImage	Deletes a specified custom image.

Action	Description
<i>DescribeImageSharePermission</i>	Describes all the authorized users to whom one of your custom image is shared.
<i>ModifyImageAttribute</i>	Modifies the name and description of a custom image.
<i>ModifyImageSharePermission</i>	Shares a custom image to other Alibaba Cloud users.

Snapshots

Actions	Description
<i>CreateSnapshot</i>	Creates a snapshot for a specified disk device.
<i>CreateAutoSnapshotPolicy</i>	Creates an automatic snapshot policy.
<i>ApplyAutoSnapshotPolicy</i>	Applies automatic snapshot policies to one or more disks.
<i>DeleteSnapshot</i>	Deletes a specified snapshot.
<i>CancelAutoSnapshotPolicy</i>	Cancels the automatic snapshot policy for one or more disks.
<i>DeleteAutoSnapshotPolicy</i>	Creates an automatic snapshot policy.
<i>DescribeAutoSnapshotPolicyEx</i>	Describes your available automatic snapshot policies.
<i>DescribeSnapshots</i>	Describes one or more of your available snapshots.
<i>DescribeSnapshotLinks</i>	Describes the snapshot chains of one or more disks.
<i>ModifyAutoSnapshotPolicyEx</i>	Creates an automatic snapshot policy.

Network

Action	Description
<i>AllocatePublicIpAddress</i>	Assigns an Internet IP address to an instance.
<i>ConvertNatPublicIpToEip</i>	Changes the public IP (NatPublicIp) of a VPC-Connected instance to an Elastic IP (EIP).
<i>AttachClassicLinkVpc</i>	Links a classic network instance to a VPC, which allows the classic network instance

Action	Description
	communicating with the resources that are in the intranet of a VPC.
<i>DetachClassicLinkVpc</i>	Unlinks a classic network-connected instance from the VPC.
<i>DescribeBandwidthLimitation</i>	Describes a list of bandwidth resources.
<i>DescribeClassicLinkInstances</i>	Describes one or more of your classic network-connected instances that have established ClassicLink with a VPC.
<i>ModifyInstanceNetworkSpec</i>	Modifies the bandwidth configuration of your ECS instance.

For more information about the APIs for Virtual Private Cloud (VPC), see [VPC API References](#).

Security groups

Action	Description
<i>CreateSecurityGroup</i>	Creates a security group.
<i>AuthorizeSecurityGroup</i>	Adds an inbound rule for a security group.
<i>AuthorizeSecurityGroupEgress</i>	Adds an outbound rule for a security group.
<i>RevokeSecurityGroup</i>	Deletes an inbound rule from a security group.
<i>RevokeSecurityGroupEgress</i>	Deletes an outbound rule from a security group.
<i>JoinSecurityGroup</i>	Adds an instance to a specified security group.
<i>LeaveSecurityGroup</i>	Removes an instance from a specified security group.
<i>DeleteSecurityGroup</i>	Deletes a security group.
<i>DescribeSecurityGroupAttribute</i>	Describes your security groups.
<i>DescribeSecurityGroups</i>	Describes the basic information about your security groups, such as the security group ID and description.
<i>DescribeSecurityGroupReferences</i>	Describes whether a specified security group has been authorized by other security group or not.

Action	Description
<i>ModifySecurityGroupAttribute</i>	Modifies the properties of the specified security group, including the security group name and description.
<i>ModifySecurityGroupPolicy</i>	Modifies the intranet communication policy of a security group.
<i>ModifySecurityGroupRule</i>	Modifies the description of a security group inbound rule.

SSH key pair

Action	Description
<i>CreateKeyPair</i>	Creates an SSH key pair.
<i>ImportKeyPair</i>	Imports the public key of an SSH key pair that you create with other key pair generators into one of the Alibaba Cloud regions.
<i>AttachKeyPair</i>	Attaches an SSH key pair to one or more of your Linux instances.
<i>DetachKeyPair</i>	Detaches an SSH key pair from one or more of your Linux instances.
<i>DeleteKeyPairs</i>	Deletes one or more of your SSH key pairs.
<i>DescribeKeyPairs</i>	Describes one or more of your SSH key pairs.

ENI

Action	Description
<i>CreateNetworkInterface</i>	Creates an ENI (Elastic Network Interface).
<i>AttachNetworkInterface</i>	Attaches an ENI to a VPC-connected instance.
<i>DetachNetworkInterface</i>	Detaches an ENI from your Instance.
<i>DeleteNetworkInterface</i>	Deletes an ENI.
<i>DescribeNetworkInterfaces</i>	Describes the list of your ENIs.
<i>ModifyNetworkInterfaceAttribute</i>	Modifies the attribute of an ENI.

Monitoring

Action	Description
<i>DescribeDisksFullStatus</i>	Describes the lifecycle status and health status information of a disk.
<i>DescribeDiskMonitorData</i>	Queries the monitoring data of a specified disk.
<i>DescribeInstancesFullStatus</i>	Describes the full status information of the specified Instance.
<i>DescribeInstanceHistoryEvents</i>	Describes the history events of a specified Instance.
<i>DescribeInstanceMonitorData</i>	Describes all the instance-related monitoring data.

Tags

Action	Description
<i>AddTags</i>	Adds or overwrites one or more tags to your ECS resource.
<i>RemoveTags</i>	Removes one or more tags from the specified ECS resource, such as instances, disks, snapshots, images, and security groups.
<i>DescribeTags</i>	Describes one or more of your available tags.

Cloud assistant

Action	Description
<i>CreateCommand</i>	Creates a <i>cloud assistant</i> command.
<i>InvokeCommand</i>	Performs a specified command on the target Instances.
<i>StopInvocation</i>	Stops cloud assistant command processes that are in Running status for one or more instances.
<i>DeleteCommand</i>	Deletes a created cloud assistant command.
<i>DescribeCommands</i>	Describes the cloud assistant commands that you have created.
<i>DescribeInvocations</i>	Describes the cloud assistant command invocation list and status on your Instances.

Action	Description
<i>DescribeInvocationResults</i>	Describes the invocation result of a cloud assistant command. The actual output information of a specified instance is returned.
<i>ModifyCommand</i>	Modifies the parameters and content of a cloud assistant command.

Others

Action	Description
<i>CancelTask</i>	Cancels a specified active task.
<i>DescribeTasks</i>	Describes the progress of a specified asynchronous request.
<i>DescribeTaskAttribute</i>	Describes the details about one or more tasks. Currently, the tasks that can be queried are the importing image action <i>ImportImage</i> and the exporting image action <i>ExportImage</i> .

Regions and zones

Action	Description
<i>DescribeRegions</i>	Describes the latest Alibaba Cloud regions that are available to you.
<i>DescribeZones</i>	Describes the zones that are available to you in a specified region.
<i>DescribeAvailableResource</i>	Describes a list of the resources available in a certain zone.
<i>DescribeResourcesModification</i>	Describes a list of the resources available in a certain zone.

4 Getting started

4.1 How to make a request

This section is applicable for users who make a GET request over HTTP or HTTPS protocol by sending a URL. If you prefer using [SDK](#), Alibaba Cloud [CLI](#), or [API Explorer](#), skip this section.

The GET request URL, which can be directly used in a browser, has a formulated [request structure](#). The URL consists of several parameters, such as the [common request parameters](#), your [signature](#), and some API-specific parameters. We provide URL request example for every API. However, these URL examples are not encoded to make them easy to read. Thus, you must encode the URL before making a request. After the authentication process is complete, we [return the results](#) to you. The response parameters are displayed if it is a success response, and the error message is displayed if it is an error response. You can fix the error according to the common error codes and API-specific error codes.

**Note:**

We recommend that you use SDK to manage your ECS resources or develop applications. It is easier for you to get started by using the language-specific SDK instead of making a request over HTTP or HTTPS. For more information, see Developer Resources.

4.2 Request structure

GET requests by sending a URL over the HTTP or HTTPS protocol are allowed. The request parameters must be included in the request URL.

See the following unencoded URL of [CreateSnapshot](#) as a request example.

```
https://ecs.aliyuncs.com/?Action=CreateSnapshot
&DiskId=1033-60053321
&<Common Request Parameters>
```

- `https` specifies the communication protocol.
- `ecs.aliyuncs.com` is one of the ECS service endpoints.
- `Action=CreateSnapshot` specifies the target API, and `DiskId=1033-60053321` is one of the [CreateSnapshot](#) parameters.
- `<Common Request Parameters>` are the headers, common parameters, and authentication parameters.

Communication protocol

Request over HTTP or HTTPS is supported. We recommend that you send requests over HTTPS to enhance security.

Especially, when you invoke the SSH key pairs APIs, or password exists in your request, such as the parameter `Password` in the [CreateInstance](#) operation, we recommend that you choose the HTTPS protocol.

Service endpoints

See the following table for the API service access endpoints of ECS.

Region (Location)	Endpoint
Default	ecs.aliyuncs.com
China North 3 (Zhangjiakou)	ecs.cn-zhangjiakou.aliyuncs.com
China North 5 (Hohhot)	ecs.cn-huhehaote.aliyuncs.com
Asia Pacific NE 1 (Tokyo)	ecs.ap-northeast-1.aliyuncs.com
Asia Pacific SE 2 (Sydney)	ecs.ap-southeast-2.aliyuncs.com
Asia Pacific SE 3 (Kuala Lumpur)	ecs.ap-southeast-3.aliyuncs.com
Asia Pacific SE 5 (Jakarta)	ecs.ap-southeast-5.aliyuncs.com
Asia Pacific SOU 1 (Mumbai)	ecs.ap-south-1.aliyuncs.com
Middle East 1 (Dubai)	ecs.me-east-1.aliyuncs.com
Germany 1 (Frankfurt)	ecs.eu-central-1.aliyuncs.com

Specifically, if you are from international regions, we recommend that you use the following central endpoints to avoid latency.

Region (Location)	Endpoint
Default (US West 1 Silicon Valley)	ecs.us-west-1.aliyuncs.com
Default (US East 1 Virginia)	ecs.us-east-1.aliyuncs.com
Default (Hong Kong)	ecs.cn-hongkong.aliyuncs.com
Default (Asia Pacific SE 1 Singapore)	ecs.ap-southeast-1.aliyuncs.com

Request Parameters

You must specify the target API for each request by passing in the `Action` parameter. For example, `Action=StartInstance`. Each URL must contain the [common request parameters](#) and the specific request parameters of the target operation.

Character encoding

Request parameters and response results are encoded by using the UTF-8 character set.

4.3 Common parameters

This section describes [the common request parameters](#) and [the common request parameters](#).

Common request parameters

The following table describes the common parameters that comprise of a URL for a GET request over HTTP or HTTPS protocol.

Name	Type	Required	Description
Action	String	Yes	The target API. For more information about the optional values, see API overview .
AccessKeyId	String	Yes	Equivalent to a logon password. However, an AccessKey is used to call APIs, while logon password is used to log on to the ECS console .
Signature	String	Yes	Your signature. For more information, see Signature .
SignatureMethod	String	Yes	Signature method. Value: HMAC-SHA1.
SignatureVersion	String	Yes	Signature algorithm version. Value: 1.0.
SignatureNonce	String	Yes	Unique random number, which is used to prevent

Name	Type	Required	Description
			network replay attacks . Different random numbers must be used for different requests.
Timestamp	String	Yes	Request time stamp. Use the offset from Coordinated Universal Time (UTC), the time display is based on ISO8601 . Format: YYYY-MM-DDThh:mm:ssZ. For example, 2018-01-01T12:00:00Z indicates 20:00:00, Jan 01, 2018, Beijing time (UTC+8).
Version	String	Yes	The API version to use . Value: 2014-05-26.
Format	String	No	Type of the response parameters. Optional values: json xml. Default value: xml.

Request example

```
https://ecs.aliyuncs.com/?Action=XXXXXX
&Format=xml
&Version=2014-05-26
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNM1dgI%3D
&SignatureMethod=HMAC-SHA1
&SignatureNonce=15215528852396
&SignatureVersion=1.0
&AccessKeyId=key-test
&Timestamp=2018-01-01T12:00:00Z
...
```

Common response parameters

Name	Type	Description
RequestId	String	Request ID. We return a unique RequestId for every

Name	Type	Description
		API request, whether the request is successful or not.

4.4 Signature

We perform the sender authentication for each request. Therefore, a signature information must be included in the request, irrespective of the use of HTTP or HTTPS protocol. By using the AccessKeyID and AccessKeySecret, we perform symmetric encryption to authenticate the sender request.

The AccessKey is equivalent to a logon password. However, an AccessKey is used to call APIs, while the logon password is used to log on to the [ECS console](#). Where an AccessKeyID is the visitor identity, an AccessKeySecret is the secret key to encrypt the signature string and to verify the signature string sent to our server. You must keep your AccessKey confidential to prevent possible data breach event.

**Note:**

We provide SDKs and third-party SDKs for multiple programming languages to help you skip the authentication process. For more information, see [SDK](#).

Step 1. Compose a standardized request URL

1. Sort the request parameters in a lexicographical order. The request parameters include the API-specific parameters and [common request parameters](#) except for the Signature parameter.

**Note:**

For example, if you make a request by using the GET method, these parameters are in the section of the URL followed by a question mark ? and connected by ampersands &.

2. Encode the request parameters by using the UTF-8 character set and according to the [RFC3986](#) rules.
 - Do not encode the A~Z and a~z characters, numbers (0~9), hyphens -, underscores _, periods ., and tildes ~.
 - Encode other characters in the %XY format, with XY representing the hexadecimal ASCII value of the characters. For example, the half-width double quotes (") are encoded as %22.
 - Encode the extended UTF-8 characters in %XY%ZA... format.

- Encode the whitespaces () to %20 instead of the plus signs (+).

Alternatively, you can use libraries that support the `application/x-www-form-urlencoded` MIME-type URL encoding,

for example the `java.net.URLEncoder` of Java language. If so, use the `percentEncode` Java method, in the encoded strings, replace the plus signs (+) with %20, the asterisks (*) with %2A, and %7E to the tildes (~). See the following example:

```
private static final String ENCODING = "UTF-8";
private static String percentEncode(String value) throws
UnsupportedEncodingException {
    return value != null ? URLEncoder.encode(value, ENCODING).replace(
        "+", "%20").replace("*", "%2A").replace("%7E", "~") : null;
}
```

3. Connect the encoded parameters and their values with the equal signs (=).
4. Concatenate the encoded parameters with ampersands (&).

Now, you get a canonicalized query string, and its structure must be the same as described in the topic [Request structure](#).

Step 2. Construct a signature string

1. Create a variable `StringToSign` by using the canonicalized query string. You can use the aforementioned [percentEncode](#) to handle the standardization request string that was constructed by the previous steps, with the following rules:

```
StringToSign=
    HTTPMethod + "&" + //HTTPMethod: HTTP method used for making
    request, for example GET.
    percentEncode("/") + "&" + //percentEncode("/"): Encode backslash
    (/) to %2F.
    percentEncode(CanonicalizedQueryString) //Encode the canonicalized
    query string created in the Step 1.
```

2. Create a variable `Signature` by calculating the HMAC-SHA1 value of the `StringToSign` according to the [RFC2104](#) rules. Here we use the Java Base64 encoding method.

```
Signature = Base64( HMAC-SHA1( AccessSecret, UTF-8-Encoding-Of(
StringToSign) ) )
```



Note:

RFC2104 when calculating signatures `AccessKeySecret` followed by the ampersand (&), and the hexadecimal ASCII value of an ampersand is 38.

3. Encode the value of Signature according to the [RFC3986](#) rules to the canonicalized query string URL.

Sample 1. Parameter Concatenation Method

Take calling [DescribeRegions](#) as an example. You have the AccessKeyID=testid and AccessKeySecret=testsecret created in the console.

1. Create a canonicalized query string.

```
http://ecs.aliyuncs.com/?Timestamp=2016-02-23T12:46:24Z&Format=XML&AccessKeyId=testid&Action=DescribeRegions&SignatureMethod=HMAC-SHA1&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf&Version=2014-05-26&SignatureVersion=1.0
```

2. Create a variable [StringToSign](#) to be calculated by using the canonicalized query string.

```
GET&%2F&AccessKeyId%3Dtestid%26Action%3DDescribeRegions%26Format%3DXML%26SignatureMethod%3DHMAC-SHA1%26SignatureNonce%3D3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf%26SignatureVersion%3D1.0%26Timestamp%3D2016-02-23T12%253A46%253A24Z%26Version%3D2014-05-26
```

3. Calculate the HMAC-SHA1 value. Because you have the AccessKeySecret=testsecret, the Key used in the RFC2104 rules is testsecret&, and the HMAC-SHA1 value is 0LeaidS1Jv xuMvnyH0wuJ+uX5qY=. Here we use the Java Base64 encoding method.

```
Signature = Base64( HMAC-SHA1( AccessSecret, UTF-8-Encoding-Of( StringToSign) ) )
```

4. Encode the value of Signature according to the [RFC3986](#) rules and add Signature=0LeaidS1JvxuMvnyH0wuJ%2BuX5qY%3D to the URL in [Step 1](#).

```
http://ecs.aliyuncs.com/?SignatureVersion=1.0&Action=DescribeRegions&Format=XML&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf&Version=2014-05-26&AccessKeyId=testid&Signature=0LeaidS1JvxuMvnyH0wuJ%2BuX5qY%3D&SignatureMethod=HMAC-SHA1&Timestamp=2016-02-23T12%253A46%253A24Z
```

Now you can use a Web browser, curl, wget or other tools to send HTTP request for calling DescribeRegions and view the Alibaba Cloud region list.

Sample 2. Programming Language Method

Assume that you are calling the [DescribeRegions](#) to describe the Alibaba Cloud region list. You have the AccessKeyID=testid and AccessKeySecret=testsecret created in the console, and all request parameters are stored in a Java Map<String, String> object.

1. Predefined encoding methods.

```
private static final String ENCODING = "UTF-8";
private static String percentEncode(String value) throws UnsupportedEncodingException {
    return value != null ? URLEncoder.encode(value, ENCODING).replace(
        "+", "%20").replace("*", "%2A").replace("%7E", "~") : null;
}
```

2. Predefine the format of the parameter `Timestamp`. The parameter `Timestamp` must conform to the [ISO8601](#), and use the offset from Coordinated Universal Time (UTC) for the date time.

```
private static final String ISO8601_DATE_FORMAT = "yyyy-MM-dd'T'HH:mm:ss'Z'";
private static String formatIso8601Date(Date date) {
    SimpleDateFormat df = new SimpleDateFormat(ISO8601_DATE_FORMAT);
    df.setTimeZone(new SimpleTimeZone(0, "GMT"));
    return df.format(date);
}
```

3. Construct a request string.

```
final String HTTP_METHOD = "GET";
Map parameters = new HashMap();
// Add request parameters
parameters.put("Action", "DescribeRegions");
parameters.put("Version", "2014-05-26");
parameters.put("AccessKeyId", "testid");
parameters.put("Timestamp", formatIso8601Date(new Date()));
parameters.put("SignatureMethod", "HMAC-SHA1");
parameters.put("SignatureVersion", "1.0");
parameters.put("SignatureNonce", UUID.randomUUID().toString());
parameters.put("Format", "XML");
// Sort the parameters
String[] sortedKeys = parameters.keySet().toArray(new String[]{});
Arrays.sort(sortedKeys);
final String SEPARATOR = "&";
// Create the variable stringToSign
StringBuilder stringToSign = new StringBuilder();
stringToSign.append(HTTP_METHOD).append(SEPARATOR);
stringToSign.append(percentEncode("/")).append(SEPARATOR);
StringBuilder canonicalizedQueryString = new StringBuilder();
for(String key : sortedKeys) {
    // Encode the key and its value
    canonicalizedQueryString.append("&")
        .append(percentEncode(key)).append("=")
        .append(percentEncode(parameters.get(key)));
}
// Encode the variable canonicalizedQueryString
stringToSign.append(percentEncode(
```

```
canonicalizedQueryString.toString().substring(1)));
```

4. Sign and encode the signature. Because you have the AccessKeySecret=testsecret, the Key for computing HMAC is testsecret& and the value of signature after calculation is 0LeaidS1JvXuMvnyH0wuJ%2BuX5qY%3D.

```
// A sample code for calculating the signature
final String ALGORITHM = "HmacSHA1";
final String ENCODING = "UTF-8";
key = "testsecret&";
Mac mac = Mac.getInstance(ALGORITHM);
mac.init(new SecretKeySpec(key.getBytes(ENCODING), ALGORITHM));
byte[] signData = mac.doFinal(stringToSign.getBytes(ENCODING));
String signature = new String(Base64.encodeBase64(signData));
```

After adding the Signature parameter, the request URL encoded according to [RFC3986](#) rules is ready to use.

```
http://ecs.aliyuncs.com/?SignatureVersion=1.0&Action=DescribeRegions
&Format=XML&SignatureNonce=3ee8c1b8-83d3-44af-a94f-4e0ad82fd6cf&
Version=2014-05-26&AccessKeyId=testid&Signature=0LeaidS1JvXuMvnyH0wu
J%2BuX5qY%3D&SignatureMethod=HMAC-SHA1&Timestamp=2016-02-23T12%
253A46%253A24Z
```

5. Use a Web browser, curl, wget or other tools to send HTTP Request.

```
<DescribeRegionsResponse>
  <Regions>
    <Region>
      <LocalName>Qingdao</LocalName>
      <RegionId>cn-qingdao</RegionId>
    </Region>
    <Region>
      <LocalName>Hangzhou</LocalName>
      <RegionId>cn-hangzhou</RegionId>
    </Region>
  </Regions>
  <RequestId>833C6B2C-E309-45D4-A5C3-03A7A7A48ACF</RequestId>
</DescribeRegionsResponse>
```

By parsing this XML schema output, you can obtain the region and region ID list of Alibaba Cloud. If you set the Format=JSON, the response results are in JSON format. For more information, see [Response results](#).

4.5 Response results

We return the results in either XML or JSON format, but XML is the default choice. You can switch to XML schema by specifying the request parameter Format. For more information, see [Common parameters](#). Response examples in our API documents have line breaks and indentation to make them easy to read. The actual response results are not formatted.

Success response example

Every successful response has a request ID in the RequestId element and other API-specific response parameters. The HTTP status code for a success response is 2XX.

- XML format

```
<?xml version="1.0" encoding="UTF-8"?> <!--Result root node-->
<ActionResponse> <!--Response request tag-->
  <RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId> <!--Response result data-->
</ActionResponse>
```

- JSON format

```
{
  "RequestId": "4C467B38-3910-447D-87BC-AC049166F216" /* Response
result data */
}
```

Error response example

Every error response consists of a request ID in the RequestId element and access endpoint in the HostId element, the error code, and the error message. The HTTP status code for an error response is 4xx or 5xx.

You can fix the exception according to the API-specific error codes or [common error codes](#) [API Error Center](#) and try the request again. Alternatively, you can [open a ticket](#) and provide additional inputs such as the HostId and RequestId to get technical support from ECS.

- XML format

```
<?xml version="1.0" encoding="UTF-8"?><!--Result root node-->
<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxxx</RequestId> <!--Request ID-->
  <HostId>ecs.aliyuncs.com</HostId> <!--Endpoint-->
  <Code>MissingParameter.CommandId</Code> <!--Error code-->
  <Message>The input parameter "CommandId" that is mandatory
for processing this request is not supplied.</Message> <!--Error
message-->
</Error>
```

- JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxxxx", /* Request
ID */
  "HostId": "ecs.aliyuncs.com", /* Endpoint */
  "Code": "MissingParameter.CommandId", /* Error code */
  "Message": "The input parameter "CommandId" that is mandatory
for processing this request is not supplied." /* Error message */
}
```

}

Common error codes

Error code	HTTP status code	Error code
IdempotentParameterMismatch	400	The request is retried with updated parameters.
IllegalTimestamp	400	The input parameter “Timestamp” that is mandatory for processing this request is not supplied.
IncompleteSignature	400	The request signature does not conform to Aliyun standards.
InsufficientBalance	400	Your account does not have enough balance.
InvalidAccessKeyId.NotFound	400	The specified Access Key ID does not exist.
InvalidOwner	400	OwnerId and OwnerAccount can't be used at one API access.
InvalidOwnerAccount	400	The specified OwnerAccount is not valid.
InvalidOwnerId	400	The specified OwnerId is not valid.
InvalidParamater	400	The specified parameter “SignatureMethod” is not valid.
InvalidParamater	400	The specified parameter “SignatureVersion” is not valid.
InvalidParameter	400	The specified parameter is not valid
InvalidParameter	400	The specified parameter “Action or Version” is not valid.
InvalidParameter.IsNull	400	The required parameter must be not null.
MissingParameter	400	The input parameter “Action” that is mandatory for processing this request is not supplied

Error code	HTTP status code	Error code
MissingParameter	400	The input parameter “AccessKeyId” that is mandatory for processing this request is not supplied
MissingParameter	400	The input parameter “Signature” that is mandatory for processing the request is not supplied.
MissingParameter	400	The input parameter “TimeStamp” that is mandatory for processing this request is not supplied
MissingParameter	400	The input parameter “Version” that is mandatory for processing this request is not supplied
SignatureNonceUsed	400	The request signature nonce has been used.
Throttling	400	You have made too many requests within a short time; your request is denied due to request throttling.
UnsupportedParameter	400	The parameters is unsupported.
UnknownError	400	The request processing has failed due to some unknown error.
ChargeTypeViolation	403	The operation is not permitted due to charge type of the instance.
Forbidden.AccessKeyDisabled	403	The Access Key is disabled.
Forbidden.NotSupportRAM	403	This action does not support accessed by RAM mode.
Forbidden.RAM	403	User not authorized to operate on the specified resource, or this API doesn't support RAM.

Error code	HTTP status code	Error code
Forbidden.RiskControl	403	This operation is forbidden by Aliyun RiskControl system.
Forbidden.SubUser	403	The specified action is not available for you.
Forbidden.Unauthorized	403	User not authorized to operate on the specified resource.
InvalidAccount.NotFound	403	The specified Account does not exist.
InvalidAction	403	Specified action is not valid.
InvalidIdempotenceParameter.Mismatch	403	The specified parameters are different from before.
InvalidParameter.OwnerAccount	403	OwnerAccount is Invalid.
InvalidParameter.ResourceOwnerAccount	403	ResourceOwnerAccount is Invalid.
LastTokenProcessing	403	The last token request is processing.
MissingParameter	403	The input parameter OwnerId ,OwnerAccount that is mandatory for processing this request is not supplied.
RealNameAuthenticationError	403	Your account has not passed the real-name authentication yet.
UnsupportedHTTPMethod	403	This HTTP method is not supported.
InvalidDiskId.NotFound	404	The specified DiskId does not exist.
InvalidImageId.NotFound	404	The specified ImageId does not exist.
InvalidInstanceId.NotFound	404	The specified InstanceId does not exist.
InvalidRegionId.NotFound	404	The specified RegionId does not exist.

Error code	HTTP status code	Error code
InvalidSecurityGroupId.NotFound	404	The specified SecurityGroupId does not exist.
InvalidSnapshotId.NotFound	404	The specified SnapshotId does not exist.
OperationConflict	409	Request was denied due to conflict with a previous request .
InternalServerError	500	The request processing has failed due to some unknown error, exception or failure.
ServiceUnavailable	503	The request has failed due to a temporary failure of the server .
ServiceUnavailable.RegionMaintaining	503	System maintenance is in progress on the selected region, please wait a few minutes before trying again.

5 Authorization rules

By default, all operation permissions are granted, and you can use all the ECS APIs to operate on your resources. If a RAM user is unauthorized, however, then they cannot operate on the resources of an Alibaba Cloud account. In this case, you can authorize a RAM user by granting them permission to operate on the resources. Skip this section if you do not need to grant a RAM user access to the ECS instance resources of an Alibaba Cloud Account. Skipping this section does not affect your understanding and usage of the ECS API.

Make sure that you have read the [RAM documentation](#) and [API reference](#) carefully before you use RAM to authorize access to ECS instances.

When a RAM user requests access to ECS resources owned by an Alibaba Cloud user by using ECS APIs, ECS sends a request to the RAM service to check access permission and make sure that the resource owner allows the caller to access the resources. Each ECS API requires different authentication rules for the requested resources. The required rules depend on the resources specification and the definition of the API. See the following table for specific authentication rules.

Action	Authorization rule
AddTags	acs:ecs:\$regionid:\$accountid:\$resourceType/\$resourceId
AllocatePublicIpAddress	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ApplyAutoSnapshotPolicy	acs:ecs:*\$accountid:snapshot/*
AttachClassicLinkVpc	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
AttachDisk	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:instance/\$diskId
AttachKeyPair	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:keypair/\$keypairName
AuthorizeSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo

Action	Authorization rule
AuthorizeSecurityGroupEgress	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
CancelAutoSnapshotPolicy	acs:ecs:*. \$accountid:snapshot/*
CancelCopyImage	acs:ecs:\$regionid:\$accountid:image/\$imageNo
CopyImage	- acs:ecs:\$fromRegionid:\$accountid:image/\$imageNo - acs:ecs:\$toRegionid:\$accountid:image/*
ConvertNatPublicIpToEip	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
CreateAutoSnapshotPolicy	acs:ecs:*. \$accountid:snapshot/*
CreateDisk	- acs:ecs:\$regionid:\$accountid:disk/* - acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId
CreateImage	- acs:ecs:\$regionid:\$accountid:image/* - acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId - acs:ecs:\$regionid:\$accountid:instance/\$instanceId
CreateInstance	- acs:ecs:\$regionid:\$accountid:instance/* - acs:ecs:\$regionid:\$accountid:image/\$imageNo - acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo - acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId (Optional) acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName - acs:vpc:\$regionid:\$accountid:vswitch/\$vswitchId - acs:vpc:\$regionid:\$accountid:vpc/\$vpId
CreateKeyPair	acs:ecs:\$regionid:\$accountid:keypair/*
CreateSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/*
CreateSnapshot	- acs:ecs:\$regionid:\$accountid:snapshot/* - acs:ecs:\$regionid:\$accountid:disk/\$diskId

Action	Authorization rule
	acs:ecs:\$regionid:\$accountid:volume/\$volumeld
DeleteAutoSnapshotPolicy	acs:ecs:*.:\$accountid:snapshot/*
DeleteDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskld
DeleteImage	acs:ecs:\$regionid:\$accountid:image/\$imageNo
DeleteInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceld
DeleteKeyPairs	acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName
DeleteSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
DeleteSnapshot	acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotld
DescribeClassicLinkInstances	acs:ecs:\$regionid:\$accountid:instance/*
DescribeDiskMonitorData	acs:ecs:\$regionid:\$accountid:disk/\$diskld
DescribeDisks	- acs:ecs:\$regionid:\$accountid:disk/\$diskld - acs:ecs:\$regionid:\$accountid:disk/*
DescribeImages	- acs:ecs:\$regionid:\$accountid:image/\$imageNo - acs:ecs:\$regionid:\$accountid:image/*
DescribeInstanceAttribute	acs:ecs:\$regionid:\$accountid:instance/\$instanceld
DescribeInstanceMonitorData	acs:ecs:\$regionid:\$accountid:instance/\$instanceld
DescribeInstances	- acs:ecs:\$regionid:\$accountid:instance/\$instanceld - acs:ecs:\$regionid:\$accountid:instance/*
DescribeInstanceStatus	acs:ecs:\$regionid:\$accountid:instance/*
DescribeInstanceVncPasswd	acs:ecs:\$regionid:\$accountid:instance/\$instanceld
DescribeInstanceVncUrl	acs:ecs:\$regionid:\$accountid:instance/\$instanceld

Action	Authorization rule
DescribeKeyPairs	- acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName - acs:ecs:\$regionid:\$accountid:keypair/*
DescribePrice	acs:ecs:*. \$accountid:*
DescribeRenewalPrice	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
DescribeSecurityGroupAttribute	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
DescribeSecurityGroups	- acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo - acs:ecs:\$regionid:\$accountid:securitygroup/*
DescribeSnapshotAttribute	acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId
DescribeSnapshotLinks	- acs:ecs:\$regionid:\$accountid:disk/\$diskId - acs:ecs:\$regionid:\$accountid:disk/*
DescribeSnapshotMonitorData	acs:ecs:*. \$accountid:snapshot/*
DescribeSnapshots	- acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId - acs:ecs:\$regionid:\$accountid:snapshot/*
DescribeTags	acs:ecs:\$regionid:\$accountid:\$resourceType/\$resourceId
DetachClassicLinkVpc	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
DetachDisk	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:instance/\$diskId
DetachKeyPair	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName
ExportImage	acs:ecs:\$regionid:\$accountid:image/\$imageNo

Action	Authorization rule
ImportImage	acs:ecs:\$regionid:\$accountid:image/*
ImportKeyPair	acs:ecs:\$regionid:\$accountid:keypair/*
JoinSecurityGroup	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
LeaveSecurityGroup	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
ModifyAutoSnapshotPolicy	acs:ecs:*\$accountid:snapshot/*
ModifyDiskAttribute	acs:ecs:\$regionid:\$accountid:disk/\$diskId
ModifyImageAttribute	acs:ecs:\$regionid:\$accountid:image/\$imageNo
ModifyInstanceAttribute	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ModifyInstanceAutoReleaseTime	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ModifyInstanceChargeType	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ModifyInstanceNetworkSpec	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ModifyInstanceVncPasswd	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ModifyInstanceVpcAttribute	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:vswitch/\$vSwitchId
ModifySecurityGroupAttribute	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
ModifySecurityGroupEgressRule	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
ModifySecurityGroupRule	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo

Action	Authorization rule
ModifyPrepayInstanceSpec	acs:ecs:\$regionid:\$accountid:
ModifySnapshotAttribute	acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId
RebootInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
ReInitDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskId
ReleasePublicIpAddress	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
RemoveTags	acs:ecs:\$regionid:\$accountid:\$resourceType/\$resourceId
ReplaceSystemDisk	- acs:ecs:\$regionid:\$accountid:instance/\$instanceId - acs:ecs:\$regionid:\$accountid:image/\$imageNo
ResetDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskId
ResizeDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskId
RevokeSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
RevokeSecurityGroupEgress	acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo
RunInstances	- acs:ecs:\$regionid:\$accountid:instance/* - acs:ecs:\$regionid:\$accountid:image/\$imageNo - acs:ecs:\$regionid:\$accountid:securitygroup/\$groupNo - acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotId - acs:ecs:\$regionid:\$accountid:keypair/\$keyPairName
StartInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceId
StopInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceId

6 Launch templates

6.1 CreateLaunchTemplate

Creates an instance launch template, or launch template for short. An instance launch template saves you the trouble of entering a large number of configuration parameters each time you create an instance.

Description

Instance launch templates contain configurations used to create instances, such as the instance region, image ID, instance type, security group ID, and internet bandwidth settings. If you do not specify a certain instance configuration in the template, you must specify this configuration when creating an instance. When creating templates (**CreateLaunchTemplate**), the template version numbers start from 1. After creating one template, you can create multiple versions based on this template (**CreateLaunchTemplateVersion**). Version numbers start from 1 and increase sequentially. If you do not specify a template version number when creating an instance (**RunInstances**), default version is used.

When you call this interface, consider the following:

- You can create up to 30 instance launch templates per region. Each template can have up to 30 versions.
- Most instance launch template parameters are optional. When you create a template, ECS does not verify the existence or validity of its parameter values. The validity of parameter values is only verified when you create instances.
- If you set a certain configuration in an instance launch template, you cannot filter out this configuration when creating an instance (**RunInstances**). For example, if you set `HostName=LocalHost` in the template and in **RunInstances** the value of `HostName` is null, the `LocalHost` still takes effect. If you want to overwrite the `HostName=LocalHost` configuration, set `HostName=MyHost` in **RunInstances** or other parameter values if you want.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value

Name	Type	Required	Description
			: CreateLaunchTemplate.
RegionId	String	Yes	Region ID of an instance. You can call DescribeRegions to obtain the latest region list.
LaunchTemplateName	String	Yes	Instance launch template name. Can contain [2, 128] characters in length. It must start with an English letter (uppercase or lowercase) and can contain numbers, periods (.), colons (:), underscores (_), and hyphens (-). It cannot start with "http://" or "https://".
VersionDescription	String	No	Description of instance launch template version 1. It can be [2, 256] characters in length. It cannot start with "http://" or "https://". The default value is null.
ImageId	String	No	Image ID.
InstanceType	String	No	Instance type. For more information, call DescribeInstanceTypes to obtain the latest instance type list.
SecurityGroupId	String	No	The security group ID.
NetworkType	String	No	Network type of the instance. Value options: Classic VPC.

Name	Type	Required	Description
VSwitchId	String	No	When creating a VPC-Connected instance, you must specify its VSwitch ID.
InstanceName	String	No	The name of the instance. The instance name is a string of 2 to 128 English or Chinese characters starting with an English letter. It can contain numbers, periods (.), underscores (_), and hyphens (-). It cannot start with "http://" or "https://".
Description	String	No	Instance description.
InternetMaxBandwidthIn	String	No	The maximum inbound bandwidth from the internet network, measured in Mbit/s. Value range: [1, 200].
InternetMaxBandwidthOut	String	No	Maximum outbound bandwidth from the Internet, its unit of measurement is Mbit/s. Value range: [0, 100].
HostName	String	No	Instance host name. - It cannot start or end with a period (.) or hyphen (-), or contain consecutive periods (.) or hyphens (-). - Windows instances: The HostName is the string of 2 to 15 characters that can contain English

Name	Type	Required	Description
			letters, numbers, and hyphens (-). It must not contain periods (.) or only numbers. In other operating systems, such as Linux, the HostName can be a string of 2 to 128 characters. It can be separated into segments by periods (.). Each segment can contain uppercase /lowercase letters , numbers, and hyphens (-).
ZoneId	String	No	The zone ID of the instance.
SystemDisk.Category	String	No	The category of the system disk. System disk type. Optional values: - cloud: Basic cloud disk. - cloud_efficiency: Ultra cloud disk. - cloud_ssd: SSD cloud disk. - ephemeral_ssd: Ephemeral SSD.
SystemDisk.Size	Integer	No	Size of the system disk, measured in GB. Value range: [20, 500].
SystemDisk.DiskName	String	No	System disk name. The system disk name is a string of 2 to 128

Name	Type	Required	Description
			English starting with an English letter. It can contain numbers, semicolons (;), periods (.), underscores (_), and hyphens (-). It cannot start with "http://" or "https://".
SystemDisk.Description	String	No	System disk description. Length: [2, 256] characters. It cannot start with "http://" or "https://".
DataDisk.n.Category	String	No	The data disk type. Value range of n: [1, 16]. Optional values - cloud: Basic cloud disk. - cloud_efficiency: Ultra cloud disk. - cloud_ssd: SSD cloud disk. - ephemeral_ssd: Ephemeral SSD.
DataDisk.n.Size	Integer	No	The data disk capacity. Value range of n: [1, 16]. Value range: - cloud: [5, 2000] - cloud_efficiency: [20, 32768] - cloud_ssd: [20, 32768] - ephemeral_ssd: [5, 800]
DataDisk.n.SnapshotId	String	No	The snapshot used to create the data disk.

Name	Type	Required	Description
			Value range of n: [1, 16].
DataDisk.n.Encrypted	Boolean	No	The data disk capacity. Value range of n: [1, 16].
DataDisk.n.DiskName	String	No	The data disk name. Value range of n: [1, 16].
DataDisk.n.Description	String	No	Description of a data disk. The valid range of n is [1, 16].
DataDisk.n.DeleteWithInstance	String	No	Whether the data disk is released with its instance. Value range of n: [1, 16].
IoOptimized	String	No	Whether it is an I/O-optimized instance or not. Optional values: • none • optimized
NetworkInterface.n.PrimaryIpAddress	String	No	The primary private IP address of the ENI.
NetworkInterface.n.VSwitchId	String	No	The VSwitch ID for number n ENI. The instance must be in the same zone of the same VPC network as the ENI, but they may belong to different VSwitches. For the value range of n, see Instance type families.
NetworkInterface.n.SecurityGroupId	String	No	The security group ID must be one in the same VPC. For the value range of n, see Instance type families.

Name	Type	Required	Description
NetworkInterface.n.NetworkInterfaceName	String	No	ENI name. For the value range of n, see Instance type families.
NetworkInterface.n.Description	String	No	The ENI description.
InternetChargeType	String	No	Internet bandwidth billing method. Optional values: PayByTraffic
UserData	String	No	User data of the instance, which is Base64-encoded. Size of the raw data cannot exceed 16 KB.
KeyPairName	String	No	The name of the key pair. - Ignore this parameter for Windows instances. It is null by default. Even if you enter this parameter, only the Password content is used. - The password logon method for Linux instances is set to forbidden upon initialization.
RamRoleName	String	No	The RAM role name of the instance. You can use the <i>RAM API ListRoles</i> to query instance RAM role names.
AutoReleaseTime	String	No	Instance auto release time. The time is presented using the <i>ISO8601</i> standard

Name	Type	Required	Description
			and in UTC time. The format is YYYY-MM-DDTHH:MM:SSZ.
SpotStrategy	String	No	The preemption strategy for a Pay-As-You-Go instance. This parameter is valid and mandatory only when <code>InstanceChargeType</code> is set to <code>PostPaid</code>. Value range: <code>NoSpot</code>: Normal Pay-As-You-Go instance. <code>SpotWithPriceLimit</code>: Sets the maximum price for a spot instance. <code>SpotAsPriceGo</code>: The system automatically calculates the price. The maximum value is the Pay-As-You-Go price.
SpotPriceLimit	Float	No	Sets the maximum hourly instance price. Supports up to three decimal places.
SecurityEnhancementStrategy	String	No	Whether or not to activate the security enhancement feature and install network security software free of charge. Optional values: <code>Active</code> <code>Deactive</code> .
Tag.n.Key	String	No	The key of a tag. Value range of n: [1,

Name	Type	Required	Description
			5]. It can be up to 64 characters in length . It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	Float	No	The value of a tag. Value range of n: [1, 5]. It can be up to 128 characters in length and cannot begin with "aliyun", "http://", or "https://".

Response parameters

Name	Type	Description
LaunchTemplateId	String	The launch instance template ID.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateLaunchTemplate
&RegionId=cn-hangzhou
&LaunchTemplateName=lt-name1
&InstanceType=ecs.cm4.6xlarge
&SecurityGroupId=sg-securitygroupid
&<Common Response Parameters>
```

Response example

XML format

```
<CreateLaunchTemplateResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
  <LaunchTemplateId>lt-m5eiaupmvm2op9dxxxxx</LaunchTemplateId>
</CreateLaunchTemplateResponse>
```

JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
  "LaunchTemplateId": "lt-m5eiaupmvm2op9dxxxxx"
```

}

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error messages	HTTP status code	Description
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	400	A required parameter is missing.
InvalidParameter	the parameter(s) provided is(are) invalid.	400	The specified parameter is invalid.
InvalidLaunchTemplateName.Malformed	The specified parameter LaunchTemplateName is not valid.	400	The specified LaunchTemplateName is invalid.
InvalidDescription.Malformed	The specified parameter "VersionDescription" is not valid.	400	The specified VersionDescription is invalid.
InvalidUserData.SizeExceeded	The specified parameter UserData exceeds the size.	400	The raw UserData exceeds 16 KB.
InvalidUserData.Base64FormatInvalid	The specified parameter UserData must be base64 encoded.	400	UserData must be Base64-encoded.
LaunchTemplateLimitExceed	The maximum number of templates is exceeded.	403	You can create up to 30 instance launch templates per region.
LaunchTemplateName.Duplicated	The specified LaunchTemplateName "{0}" already exist.	403	The specified LaunchTemplateName already exists.
InnerServiceFailed	call inner service failed	403	An internal server error.

6.2 CreateLaunchTemplateVersion

Creates a version based on the specified instance launch template.

Description

You can create up to 30 versions of each instance launch template. Instead of a template modification API, we provide a version iteration API (**CreateLaunchTemplateVersion**) that allows you to modify the parameters in a template by creating a new version. For more information, see **CreateLaunchTemplate**.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value : CreateLaunchTemplateVersion.
RegionId	String	Yes	Region ID of an instance. You can call DescribeRegions to obtain the latest region list.
LaunchTemplateId	String	Yes	Instance launch template ID. For more information, call DescribeLaunchTemplates . Either the LaunchTemplateId or the LaunchTemplateName must be specified to choose a template.
LaunchTemplateName	String	Yes	Instance launch template name.
VersionDescription	String	No	Description of instance launch template version. It can be [2 , 256] characters in length. It cannot begin with http:// or https://.

Name	Type	Required	Description
			The default value is null.
ImageId	String	No	Image ID.
InstanceType	String	No	Instance type. For more information, call DescribeInstanceTypes to obtain the latest instance type list.
SecurityGroupId	String	No	The security group ID.
NetworkType	String	No	Network type of the instance. Optional values: Classic VPC.
VSwitchId	String	No	When creating a VPC-Connected instance , you must specify its VSwitch ID.
InstanceName	String	No	The name of the instance. The instance name is a string of 2 to 128 English letters and special characters . It must start with a letter. It can contain numbers, periods (.), colons (:), underscores (_), and hyphens (-). It cannot start with "http://" or "https://".
Description	String	No	Instance description.
InternetMaxBandwidthIn	String	No	The maximum inbound bandwidth from the internet network, measured in Mbit/s. Value range: [1, 200].
InternetMaxBandwidthOut	String	No	The maximum outbound bandwidth to the internet network

Name	Type	Required	Description
			, measured in Mbit/s. Value range: [0, 100].
HostName	String	No	Instance host name. "HostName" cannot start or end with a period (.) or hyphen (-), or contain consecutive periods (.) or hyphens (-). - Windows instances : The HostName is the string of 2 to 15 characters that can contain English letters, numbers, and hyphens (-). It must not contain periods (.) or only numbers. - In other operating systems, such as Linux, the HostName can be a string of 2 to 128 characters, which can be separated into segments by periods (.). Each segment can contain uppercase or lowercase letters, numbers, and hyphens (-).
ZoneId	String	No	The zone ID of the instance.
SystemDisk.Category	String	No	The category of the system disk. Optional values: cloud: Basic cloud disk.

Name	Type	Required	Description
			- cloud_efficiency: Ultra cloud disk. - cloud_ssd: SSD cloud disk. - ephemeral_ssd: Ephemeral SSD.
SystemDisk.Size	Integer	No	The system disk size, in GiB. Value range: [20, 500].
SystemDisk.DiskName	String	No	System Disk name. It is a string of 2 to 128 English letters and special characters. It must start with an English letter. It can contain numbers, colons (:), periods (.), underscores (_), and hyphens (-). It cannot start with "http://" or "https://".
SystemDisk.Description	String	No	System Disk description. Length: [2, 256] characters. It cannot start with "http://" or "https://".
DataDisk.n.Category	String	No	The data disk type. Value range of n: [1, 16]. Optional values: - cloud: Basic cloud disk. - cloud_efficiency: Ultra cloud disk. - cloud_ssd: SSD cloud disk. - ephemeral_ssd: Ephemeral SSD.
DataDisk.n.Size	Integer	No	The data disk capacity. Value range

Name	Type	Required	Description
			of n: [1, 16]. Value range: - cloud: [5, 2000] - cloud_efficiency: [20, 32768] - cloud_ssd: [20, 32768] - ephemeral_ssd: [5, 800]
DataDisk.n.SnapshotId	String	No	The snapshot used to create the data disk. Value range of n: [1, 16].
DataDisk.n.Encrypted	Boolean	No	Whether the data disk is encrypted. Value range of n: [1, 16].
DataDisk.n.DiskName	String	No	The data disk name. Value range of n: [1, 16].
DataDisk.n.Description	String	No	The data disk description. Value range of n: [1, 16].
DataDisk.n.DeleteWithInstance	String	No	Whether the data disk is released with its instance. Value range of n: [1, 16].
IoOptimized	String	No	Whether it is an I/O-optimized instance or not. Optional values: - none - optimized
NetworkInterface.n.PrimaryIpAddress	String	No	The primary private IP address of ENI number n. For the value range of n, see Instance type families.

Name	Type	Required	Description
NetworkInterface.n.VSwitchId	String	No	The VSwitch ID for number n ENI. The instance must be in the same zone of the same VPC network as the ENI, but they may belong to different VSwitches. For the value range of n , see Instance type families.
NetworkInterface.n.SecurityGroupId	String	No	The security group ID for n must specify a security group in the same VPC network. For the value range of n , see Instance type families.
NetworkInterface.n.NetworkInterfaceName	String	No	The name of ENI number n. For the value range of n, see Instance type families.
NetworkInterface.n.Description	String	No	The description of ENI number n. For the value range of n , see Instance type families.
InternetChargeType	String	No	Internet bandwidth billing method. Value options: PayByTraffic
UserData	String	No	User data of the instance, which is Base64-encoded. Size of the raw data cannot exceed 16 KB.
KeyPairName	String	No	The name of the key pair. This parameter is valid only for a Linux instance. It is null by default.

Name	Type	Required	Description
			If a value is set for parameter <code>KeyPairName</code>, the <code>Password</code> still takes effect. The user name and password authentication method is disabled if a value is set for parameter <code>KeyPairName</code> for a Linux instance.
<code>RamRoleName</code>	String	No	The RAM role name of the instance. You can use the <i>RAM API ListRoles</i> to query instance RAM role names.
<code>AutoReleaseTime</code>	String	No	Instance auto release time. The time is presented using the <i>ISO8601</i> standard and in UTC time. The format is YYYY-MM-DDTHH:MM:SSZ.
<code>SpotStrategy</code>	String	No	The preemption strategy for Pay-As-You-Go (PostPaid) instances. This parameter is valid and mandatory only when <code>InstanceChargeType</code> is set to <code>PostPaid</code>. Optional values: <code>NoSpot</code>: Normal Pay-As-You-Go instance.

Name	Type	Required	Description
			- SpotWithPriceLimit : Sets the maximum price for a spot instance. - SpotAsPriceGo : The system automatically calculates the price . The maximum value is the Pay-As-You-Go price.
SpotPriceLimit	Float	No	Sets the maximum hourly instance price. Supports up to three decimal places.
SecurityEnhancementStrategy	String	No	Whether or not to activate the security enhancement feature and install network security software free of charge. Optional values: Active Deactive.
Tag.n.Key	String	No	The instance tag key. The valid range of n is [1, 5]. Supports up to 64 characters. Cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	Float	No	The instance tag value. The valid range of n is [1, 5]. Supports up to 128 characters. Cannot begin with "aliyun", "http://", or "https://".

Response parameters

Name	Type	Description
LaunchTemplateVersionNumber	Long	The launch instance template version number.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateLaunchTemplateVersion
&RegionId=cn-hangzhou
&LaunchTemplateName=lt-name1
&InstanceType=ecs.cm4.6xlarge
&SecurityGroupId=sg-securitygroupid
&<Common Request Parameters>
```

Response example

XML format

```
<CreateLaunchTemplateVersionResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
  <LaunchTemplateVersionNumber>2</LaunchTemplateVersionNumber>
</CreateLaunchTemplateVersionResponse>
```

JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
  "LaunchTemplateVersionNumber": 2
}
```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error messages	HTTP status code	Description
InvalidLaunchTemplate.NotFound	The specified LaunchTemplateId "{0}" LaunchTemplateName "{1}" is not found.	400	The specified LaunchTemplateId or LaunchTemplateName is not found.
MissingParameter	The input parameter "{0}" that is mandatory for processing this	400	A required parameter is missing.

Error code	Error messages	HTTP status code	Description
	request is not supplied .		
InvalidParameter	the parameter(s) "{0}" provided is(are) invalid .	400	The specified parameter is invalid.
InvalidDescription. Malformed	The specified parameter " VersionDescription" is not valid.	400	The specified VersionDes cription is invalid.
InvalidUserData. SizeExceeded	The specified parameter UserData exceeds the size.	400	The raw UserData exceeds 16 KB.
InvalidUserData. Base64FormatInvalid	The specified parameter UserData must be base64 encoded.	400	UserData must be Base64-encoded.
LaunchTemp lateVersionLimitExce ed	The maximum number of template's versions is exceeded.	403	You can create up to 30 versions of each instance launch template.
InnerServiceFailed	call inner service failed	403	An internal server error.

6.3 DeleteLaunchTemplate

Deletes an instance launch template.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value : DeleteLaun chTemplate.
RegionId	String	Yes	Region ID of an instance launch template. To view the latest list of Alibaba

Name	Type	Required	Description
			Cloud regions, call DescribeRegions .
LaunchTemplateId	String	No	Instance launch template ID. For more information, call DescribeLaunchTemplates . Either the <code>LaunchTemplateId</code> or the <code>LaunchTemplateName</code> must be specified to determine the template.
LaunchTemplateName	String	No	Instance launch template name.

Response parameters

All are common response parameters. See [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DeleteLaunchTemplate
&RegionId=cn-hangzhou
&LaunchTemplateName=lt-name1
&<Common Request Parameters>
```

Response example

XML format

```
<DeleteLaunchTemplateResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
</DeleteLaunchTemplateResponse>
```

JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
}
```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error message	HTTP status code	Description
MissingParameter	The input parameter "{0}" that is mandatory for processing this request is not supplied.	400	A required parameter is missing.
InvalidParameter	the parameter(s) "{0}" provided is(are) invalid.	400	The specified parameter is invalid.
InnerServiceFailed	call inner service failed	403	Internal server error.

6.4 DeleteLaunchTemplateVersion

Deletes a specified instance launch template version. However, if the instance launch template version you intend to delete is the default version, you must use the [DeleteLaunchTemplate](#) API to delete the entire instance launch template.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DeleteLaunchTemplateVersion.
RegionId	String	Yes	Region ID of the template. For more information, call DescribeRegions to view the latest list of Alibaba Cloud regions.
DeleteVersion.n	Long	Yes	Template version number. Value range of `n`: [1, 29]. For more information, call DescribeLaunchTemplateVersions to query the template version list.
LaunchTemplateId	String	No	Template ID. Either the LaunchTemplateId or the

Name	Type	Required	Description
			LaunchTemplateName must be specified to determine the template.
LaunchTemplateName	String	No	Template name.

Response parameters

All are common response parameters. See [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DeleteLaunchTemplateVersion
&RegionId=cn-hangzhou
&LaunchTemplateName=lt-name1
&DeleteVersion.1=1
&<Common Request Parameters>
```

Response example

XML format

```
<DeleteLaunchTemplateVersionResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
</DeleteLaunchTemplateVersionResponse>
```

JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
}
```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error message	HTTP status code	Description
MissingParameter	The input parameter "{0}" that is mandatory for processing this request is not supplied.	400	A required parameter is missing.

Error code	Error message	HTTP status code	Description
InvalidParameter	the parameter(s) "{0}" provided is(are) invalid .	400	The specified parameter is invalid.
InnerServiceFailed	call inner service failed	403	Internal server error.
InvalidOperation. DeleteDefaultVersion	Delete default version from template is not allowed.	403	You cannot delete the default template version directly.

6.5 DescribeLaunchTemplates

Queries available instance launch templates.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface Value : DescribeLaunchTemplates.
RegionId	String	Yes	Region ID of an instance launch template. To view the latest list of Alibaba Cloud regions, call DescribeRegions .
LaunchTemplateId	String	No	Instance launch template ID. You must specify the LaunchTemplateId or LaunchTemplateName to determine the template.
LaunchTemplateName	String	No	Instance launch template name.
PageNumber	Integer	No	Page number of the instance launch template list. Start value: 1.

Name	Type	Required	Description
			Default value: 1.
PageSize	Integer	No	Number of rows per page when querying by page. Maximum Value: 50. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of instance launch templates.
PageNumber	Integer	Current page number.
PageSize	Integer	Number of rows per page when querying by page.
LaunchTemplateSet	LaunchTemplateSet	The instance launch template information set.

LaunchTemplateSet

Name	Type	Description
CreateTime	String	The creation time of an instance launch template.
ModifiedTime	String	Time of last modification.
LaunchTemplateId	String	Template ID.
LaunchTemplateName	String	Template name.
DefaultVersionNumber	Long	The default template version number.
LatestVersionNumber	Long	The latest template version number.
CreatedBy	String	Creator of the template. template.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeLaunchTemplates
```

```
&RegionId=cn-hangzhou
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeLaunchTemplatesResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
  <TotalCount>1</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <LaunchTemplateSets>
    <LaunchTemplateSet>
      <CreateTime>2018-05-14T14:18:00Z</CreateTime>
      <ModifiedTime>2018-05-14T14:18:00Z</ModifiedTime>
      <LaunchTemplateId>lt-m5e3ofjr1zn1aw7xxxx</LaunchTemplateId>
      <LaunchTemplateName>wd-1526307480xxx</LaunchTemplateName>
      <DefaultVersionNumber>1</DefaultVersionNumber>
      <LatestVersionNumber>1</LatestVersionNumber>
      <CreatedBy>1942111349714xxx</CreatedBy>
    </LaunchTemplateSet>
  </LaunchTemplateSets>
</DescribeLaunchTemplatesResponse>
```

JSON format

```
"RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
"TotalCount": 1,
"PageNumber": 1,
"PageSize": 10,
"LaunchTemplateSets": {
  "LaunchTemplateSet": [ {
    "LaunchTemplateName": "wd-1526307480xxx",
    "CreatedBy": "1942111349714xxx",
    "ModifiedTime": "2018-05-14T14:18:00Z",
    "LatestVersionNumber": 1,
    "CreateTime": "2018-05-14T14:18:00Z",
    "LaunchTemplateId": "lt-m5e3ofjr1zn1aw7qdx",
    "DefaultVersionNumber": 1
  }
]
```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error message	HTTP status code	Description
MissingParameter	The input parameter "{0}" that is mandatory for processing this	400	A required parameter is missing.

Error code	Error message	HTTP status code	Description
	request is not supplied .		
InvalidParameter	the parameter(s) "{0}" provided is(are) invalid .	400	The specified parameter is invalid.
InnerServiceFailed	call inner service failed	403	Internal server error.

6.6 DescribeLaunchTemplateVersions

Queries instance launch template versions.

Request Parameters

Parameter	Type	Required	Description
Action	String	Yes	The name of this interface. Value : DescribeLa unchTempla teVersions.
RegionId	String	Yes.	Region ID of an instance launch template. You can all DescribeRegions to view the latest list of Alibaba Cloud regions,
LaunchTemplateId	String	No	Instance launch template ID. Either the LaunchTemplateId or LaunchTemp lateName must be specified to determine the template.
LaunchTemplateName	String	No	Instance launch template name.
LaunchTemp lateVersion.N	Long	No	One or more instance launch template versions.
MinVersion	Long	No	The minimum version number when a range

Parameter	Type	Required	Description
			is used to specify the template.
MaxVersion	Long	No	The maximum version number when a range is used to specify the template.
DefaultVersion	Boolean	No	Whether to query the default version.
PageNumber	Integer	No	Page number of the instance launch template list. Start value: 1. Default value: 1.
PageSize	Integer	No	Number of rows per page when querying by page. Maximum Value: 50. Default value: 10.

Response parameters

Parameter	Type	Description
TotalCount	Integer	Total number of instance launch templates.
Pagenumber	Integer	Current page number.
Pagesize	Integer	Number of rows per page when querying by page.
LaunchTemplateVersionSet	LaunchTemplateVersionSet	Information about the template version.

LaunchTemplateVersionSet

Parameter	Type	Description
CreateTime	String	Template creation time.
ModifiedTime	String	Time of last template modification.
LaunchTemplateId	String	Template ID.

Parameter	Type	Description
LaunchTemplateName	String	Template name.
DefaultVersion	Boolean	Default template version.
VersionNumber	Long	Template version number.
VersionDescription	Long	Template version description.
CreatedBy	String	Creator of the template.
LaunchTemplateData	LaunchTemplateData	The specific template configuration.

Data type: LaunchTemplateData

Parameter	Type	Description
ImageId	String	Image ID.
InstanceType	String	Instance type.
SecurityGroupId	String	Security group ID.
VSwitchId	String	VSwitch ID.
InstanceName	String	Instance name.
Description	String	Instance description.
InternetMaxBandwidthIn	String	Maximum inbound public bandwidth.
InternetMaxBandwidthOut	String	Maximum outbound public bandwidth.
HostName	String	Instance host name.
ZoneId	String	Instance zone ID.
Systemdisk.Category	String	System disk type.
SystemDisk.Size	Integer	System disk size, in GiB.
SystemDisk.DiskName	String	System disk name.
SystemDisk.Description	String	System disk description.
DataDisk.n.Size	Integer	Data disk size.
DataDisk.n.SnapshotId	String	Snapshot ID used for the data disk.
DataDisk.n.Category	String	Data disk type.

Parameter	Type	Description
DataDisk.n.Encrypted	Boolean	Whether the data disk is encrypted.
DataDisk.n.DiskName	String	System disk name
DataDisk.n.Description	String	System disk description.
DataDisk.n.DeleteWithInstance	String	Whether the data disk is released with its instance.
IoOptimized	String	Whether this is an I/O optimized instance.
NetworkInterface.n.PrimaryIpAddress	String	Primary private IP address of the ENI.
NetworkInterface.n.VSwitchId	String	The ID of the ENI's VSwitch.
NetworkInterface.n.SecurityGroupId	String	The security group ID, which must be in the same VPC as the ENI.
NetworkInterface.n.NetworkInterfaceName	String	ENI name.
NetworkInterface.n.Description	String	ENI description.
Period	Integer	Duration of purchased resource.
InternetChargeType	String	Public bandwidth billing method.
NetworkType	String	Network type.
UserData	String	User data of the instance, which is Base64-encoded.
KeyPairName	String	Key pair name.
RamRoleName	String	Instance's RAM role name.
AutoReleaseTime	String	Automatic release time.
SpotStrategy	String	Spot strategy for Pay-As-You-Go instances.
SpotPriceLimit	Float	Sets the maximum hourly price for instances.
SecurityEnhancementStrategy	String	Whether Security Reinforcement is enabled.

Parameter	Type	Description
Tag.n.Key	String	Instance tag key.
Tag.n.Value	Float	Instance tag value.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeLaunchTemplateVersions
&Regionid = cn-Hangzhou
&LaunchTemplateName=lt-name1
&<Common request parameters>
```

Response example

XML format

```
<DescribeLaunchTemplateVersionsResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
  <TotalCount>1</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <LaunchTemplateVersionSets>
    <LaunchTemplateVersionSet>
      <CreateTime>2018-05-14T14:18:00Z</CreateTime>
      <ModifiedTime>2018-05-14T14:18:00Z</ModifiedTime>
      <LaunchTemplateId>lt-m5e3ofjr1zn1aw7xxxx</LaunchTemplateId>
      <LaunchTemplateName>wd-1526307480xxx</LaunchTemplateName>
      <DefaultVersion>true</DefaultVersion>
      <VersionNumber>1</VersionNumber>
      <CreatedBy>1942111349714xxx</CreatedBy>
      <VersionDescription>www</VersionDescription>
      <launchtemplatedata>
        <imageowneralias>ImageOwnerAlias1</imageowneralias>
        <description>Description1</description>
        <resourcegroupid>ResourceGroupId1</resourcegroupid>
        <datadisks>
          <datadisk>
            <snapshotid>SnapshotId1</snapshotid>
            <description>Description1</description>
            <category>cloud_efficiency</category>
            <encrypted>false</encrypted>
            <size>44</size>
            <deletewithinstance>true</deletewithinstance>
            <diskname>DataDiskName1</diskname>
          </datadisk>
        </datadisks>
        <userdata>UserData1</userdata>
        <systemdisk.diskname>SystemDiskDiskName1</systemdisk.diskname>
        <systemdisk.size>44</systemdisk.size>
        <ramrolename>RamRoleName1</ramrolename>
        <networktype>NetworkType1</networktype>
        <networkinterfaces>
          <networkinterface>
            <description>Description1</description>
            <securitygroupid>SecurityGroupId1</securitygroupid>
            <vswitchid>VSwitchId1</vswitchid>
```

```

    <networkinterface>NetworkInterfaceName1</networkinterface>
    <primaryipaddress>PrimaryIpAddress1</primaryipaddress>
  </networkinterface>
</networkinterfaces>
<imageid>windows2008.vhd</imageid>
<spotpricelimit>1</spotpricelimit>
<systemdisk.category>cloud_efficiency</systemdisk.category>
<instancetype>ecs.xn4.small</instancetype>
<spotstrategy>SpotWithPriceLimit</spotstrategy>
<hostname>HostName1</hostname>
<tags>
  <instancetag>
    <value>bb</value>
    <key>ss</key>
  </instancetag>
</tags>
<keypairname>KeyPairName1</keypairname>
<systemdisk.iops>22</systemdisk.iops>
<iioptimized>true</iioptimized>
<zoneid>ZoneId1</zoneid>
<systemdisk.description>SystemDiskDescription1</systemdisk.description>
<securitygroupid>sg-tiantt1234</securitygroupid>
<vswitchid>vsw-xxxxxx</vswitchid>
<period>1</period>
<internetchargetype>PayByBandwidth</internetchargetype>
<instancetype>InstanceName1</instancetype>
<internetmaxbandwidthout>20</internetmaxbandwidthout>
<internetmaxbandwidthin>1</internetmaxbandwidthin>
<securityenhancementstrategy>Active</securityenhancementstrategy>
>
  <autoreleasetime>2019-10-21T00:00:00Z</autoreleasetime>
</launchtemplatedata>
</LaunchTemplateVersionSet>
</LaunchTemplateVersionSets>
</DescribeLaunchTemplateVersionsResponse>

```

JSON format

```

{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
  "TotalCount": 1,
  "PageNumber": 1,
  "PageSize": 10,
  "LaunchTemplateVersionSets": {
    "LaunchTemplateVersionSet": [
      {
        "LaunchTemplateData": {
          "Description": "Description1",
          "ResourceGroupId": "ResourceGroupId1",
          "DataDisks": {
            "DataDisk": [
              {
                "SnapshotId": "SnapshotId1",
                "Description": "Description1",
                "Category": "cloud_efficiency",
                "Encrypted": false,
                "Size": 44,
                "DeleteWithInstance": true,
                "DiskName": "DataDiskName1"
              }
            ]
          }
        }
      }
    ]
  }
}

```

```

    }
  ],
  "UserData": "UserData1",
  "SystemDisk.DiskName": "SystemDiskDiskName1",
  "SystemDisk.Size": 44,
  "RamRoleName": "RamRoleName1",
  "NetworkType": "NetworkType1",
  "NetworkInterfaces": {
    "NetworkInterface": [
      {
        "Description": "Description1",
        "SecurityGroupId": "SecurityGroupId1",
        "VSwitchId": "VSwitchId1",
        "NetworkInterfaceName": "NetworkInterfaceName1",
        "PrimaryIpAddress": "PrimaryIpAddress1"
      }
    ]
  },
  "ImageId": "windows2008.vhd",
  "SpotPriceLimit": 1,
  "SystemDisk.Category": "cloud_efficiency",
  "InstanceType": "ecs.xn4.small",
  "SpotStrategy": "SpotWithPriceLimit",
  "HostName": "HostName1",
  "Tags": {
    "InstanceTag": [
      {
        "Value": "bb",
        "Key": "ss"
      }
    ]
  },
  "KeyPairName": "KeyPairName1",
  "SystemDisk.Iops": 22,
  "IoOptimized": "true",
  "ZoneId": "ZoneId1",
  "SystemDisk.Description": "SystemDiskDescription1",
  "SecurityGroupId": "sg-tiantt1234",
  "VSwitchId": "vsw-xxxxxx",
  "Period": 1,
  "InternetChargeType": "PayByBandwidth",
  "InstanceName": "InstanceName1",
  "InternetMaxBandwidthOut": 20,
  "InternetMaxBandwidthIn": 1,
  "SecurityEnhancementStrategy": "Active",
  "AutoReleaseTime": "2019-10-21T00:00:00Z"
},
"LaunchTemplateName": "wd-1526308145065",
"CreatedBy": "1942111349714263",
"VersionDescription": "wwwdesc",
"ModifiedTime": "2018-05-14T14:29:05Z",
"CreateTime": "2018-05-14T14:29:05Z",
"DefaultVersion": true,
"LaunchTemplateId": "lt-m5efs0xpur7pey3y9yt7",
"VersionNumber": 1
}
}]
}

```

```
}
```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error message	HTTP status code	Meaning
InvalidLaunchTemplate.NotFound	The specified LaunchTemplateId "{0}" LaunchTemplateName "{1}" is not found.	400	The specified LaunchTemplateId or LaunchTemplateName is not found.
MissingParameter	The input parameter "{0}" that is mandatory for processing this Request is not supplied.	400	A required parameter is missing.
InvalidParameter	the parameter(s) "{0}" provided is(are) invalid.	400	The specified parameter is invalid.
Innerservicefailed	Call inner service failed	403	Internal server error.

6.7 ModifyLaunchTemplateDefaultVersion

Sets a specified version of this template as the default version. If you do not specify a template version number when creating an instance ([RunInstances](#)), default version is used.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value : ModifyLaunchTemplateDefaultVersion.
RegionId	String	Yes	Region ID of the template. To view the latest list of Alibaba Cloud regions, call DescribeRegions .

Name	Type	Required	Description
DefaultVersionNumber	Long	Yes	Sets the default version number for the instance launch template.
LaunchTemplateId	String	No	Instance launch template ID. Either the <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> must be specified to determine the template.
LaunchTemplateName	String	No	Instance launch template name. You must specify the <code>LaunchTemplateId</code> or <code>LaunchTemplateName</code> to determine the template.

Response parameters

All are common response parameters. See [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyLaunchTemplateDefaultVersion
&RegionId=cn-hangzhou
&LaunchTemplateName=lt-name1
&DefaultVersionNumber=2
&<Common Request Parameters>
```

Response example

XML format

```
<ModifyLaunchTemplateDefaultVersionResponse>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
</ModifyLaunchTemplateDefaultVersionResponse>
```

JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
```

```
}
```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error message	HTTP status code	Description
InvalidLaunchTemplate.NotFound	The specified LaunchTemplateId "{0}" LaunchTemplateName "{1}" is not found.	400	The specified LaunchTemplateId or LaunchTemplateName does not exist.
InvalidLaunchTemplateVersion.NotFound	The specified LaunchTemplateId "{0}" Version "{1}" is not found.	400	The specified DefaultVersionNumber does not exist.
MissingParameter	The input parameter "{0}" that is mandatory for processing this request is not supplied.	400	A required parameter is missing.
InvalidParameter	the parameter(s) "{0}" provided is(are) invalid.	400	The specified parameter is invalid.
InnerServiceFailed	call inner service failed	403	Internal server error.

7 Disks

7.1 CreateDisk

Creates a portable data disk. The disk category contains basic cloud disk, efficiency cloud disk, and cloud SSD disk.

Description

- Creating a disk involves resource billing. Know the billing methods of ECS in advance. For more information, see [Pay-As-You-Go](#) (PostPaid).
- The `DeleteAutoSnapshot` attribute of the created disk is `true`, and automatic snapshots are deleted by default when you delete the data disk. You can use [ModifyDiskAttribute](#) to modify this attribute.
- By default, the `Portable` attribute of the created data disk is `true`, and the billing method is Pay-As-You-Go.
- You must specify either the request parameter `Size` or `SnapshotId`. The `Size` specifies the volume capacity of the data disk, and the `SnapshotId` specifies a snapshot to create the data disk.

Request Parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>CreateDisk</code> .
RegionId	String	Yes	The ID of the region to which an instance belongs. For more information, call DescribeRegions to obtain the latest region list.
ZoneId	String	Yes	ID of the zone.
DiskName	String	No	Indicates the disk name. • The disk name can be 2 to 128 characters in length

Name	Type	Required	Description
			. It must begin with an uppercase or lowercase English letter, or Chinese character. It can contain digits, periods (.), colons (:), underscores (_), and hyphens (-). - The disk name is displayed in the console. - It cannot begin with http:// or https://. - By default, the value of the disk name is null.
Description	String	No	Indicates the disk description. - It can be 2 to 256 characters in length. - The disk description is displayed in the console. - It cannot begin with http:// or https://. - By default, the value of the disk description is null.
Encrypted	Boolean	No	Whether the disk is encrypted or not. Optional values: - true - false By default, the value of the encryption is false.

Name	Type	Required	Description
DiskCategory	String	No	Indicates the category of the data disk. Optional values: - cloud: Basic cloud disk. - cloud_efficiency: Efficiency cloud disk. - cloud_ssd: Cloud SSD. By default, the value is cloud.
Size	Integer	No	Indicates the size of the system disk (GiB). The value must be equal to or greater than the size of the specific SnapshotId. Optional values: - cloud: [5, 2000]. - cloud_efficiency: [20, 32768]. - cloud_ssd: [20, 32768].
SnapshotId	String	No	Indicates the snapshot ID. Snapshots are used to create the data disk. After this parameter is specified, Size is ignored. The actual size of the created disk is the size of the specified snapshot. Snapshots generated on or before July 15, 2013 cannot be used to create a disk.

Name	Type	Required	Description
ClientToken	String	No	Used to guarantee the idempotence of the request. The value is generated by a client. It must be unique among all requests and can contain a maximum of 64 ASCII characters. For more information, see How to ensure idempotence .

Response parameters

Name	Type	Description
DiskId	String	ID of the disk

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateDisk
&RegionId=cn-qingdao
&ZoneId=cn-qingdao-b
&Size=200
&DiskName=ThisIsDiskName
&Description=ThisIsDescription
&<Common Request Parameters>
```

Response example

XML format

```
<CreateDiskResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
  <DiskId>d-bp131n0q38u3a4ziXXXXX</DiskId>
</CreateDiskResponse>
```

JSON format

```
"RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E",
"DiskId": "d-bp131n0q38u3a4ziXXXXX"
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
Account.Arrearage	Your account has an outstanding payment.	400	Your account balance is insufficient. Update your account status and try again.
InvalidDescription.Malformed	The specified description is wrongly formed.	400	The specified DescriptionName format is invalid.
InvalidDiskCategory.NotSupported	The specified disk category is not support .	400	The specified disk category is not supported.
InvalidDiskCategory.ValueNotSupported	The specified parameter DiskCategory is not valid.	400	The specified DiskCategory is invalid.
InvalidDiskName.Malformed	The specified disk name is wrongly formed.	400	The specified DiskName format is invalid.
EncryptedOption.Conflict	Encryption value of disk conflicts with that of snapshot.	400	The encryption value of disk and snapshot must be the same.
InvalidParameter.Encrypted.KmsNotEnabled	The encrypted disk need enable KMS.	400	No KMS service is available in your account, please enable the KMS service by yourself.
InvalidParameter.EncryptedIllegal	The value of parameter encrypted is illegal.	400	The specified parameter Encrypted is invalid.
InvalidParameter.EncryptedNotSupported	Encrypted disk is not support in this region.	400	The specified region does not support encryption.
InvalidParameter.EncryptedNotSupported	Corresponding data disk category does not support encryption.	400	The corresponding disk category does not support encryption.
InvalidSize.ValueNotSupported	The specified parameter Size is not valid.	400	The specified Size is not invalid.

Error code	Error message	HTTP status code	Meaning
MissingParameter	The input parameter either SnapshotId or Size should be specified.	400	The SnapshotId or Size parameter is not specified.
InstanceDiskCategoryLimitExceed	The total size of specified disk category in an instance exceeds.	403	The specified disk category exceeds the maximum capacity of a single instance.
InvalidAccountStatus. NotEnoughBalance	Your account does not have enough balance.	403	The account balance is insufficient.
InvalidAccountStatus. SnapshotServiceUnavailable	Snapshot service has not been opened yet.	403	The Snapshot service is not activated.
InvalidDataDiskCategory. NotSupported	Specified disk category is not supported.	403	The specified disk category is not supported.
InvalidDataDiskCategory. NotSupported	diskCategory is CLOUD_SSD, but the supported DiskCategory is [io1, io4, io3].	403	The specified disk category is not supported.
InvalidDiskCategory. ValueUnauthorized	The disk category is not authorized.	403	The specified disk category is unauthorized.
InvalidDiskSize. NotSupported	disk size is not supported.	403	The specified disk size is not supported.
InvalidDiskSize. TooSmall	Specified disk size is less than the size of snapshot.	403	The size of the specified disk is smaller than the specified snapshot.
InvalidSnapshot. NotReady	The specified snapshot creation is not completed yet.	403	The specified snapshot is not yet complete.
InvalidSnapshot. TooLarge	The capacity of snapshot emissions 2000 GB.	403	The size of the specified snapshot exceeds the maximum value of the disk type.

Error code	Error message	HTTP status code	Meaning
InvalidSnapshot. TooOld	This operation is forbidden because the specified snapshot is created before 2013-07-15.	403	The specified snapshot was created on or before July 15 , 2013, so the disk cannot be created.
InvalidSnapshotId. NotReady	The specified snapshot has not completed yet.	403	The specified snapshot is not yet complete.
OperationDenied	The specified snapshot is not allowed to create disk.	403	The specified snapshot is not permitted to create a disk.
OperationDenied	The type of the disk does not support the operation.	403	The specified disk type does not support this operation.
QuotaExceed. PortableCloudDisk	The quota of portable cloud disk exceeds.	403	The portable general cloud disk quota has exceeded.
InvalidRegionId. NotFound	The specified RegionId does not exist.	404	The specified RegionId does not exist.
InvalidRegionId. NotFound	The specified RegionId does not exist.	404	The specified RegionId does not exist.
InvalidSnapshotId. NotFound	The specified SnapshotId does not exist.	404	The specified SnapshotId does not exist.
InvalidZoneId. NotFound	The specified zone does not exist.	404	The specified ZoneId does not exist.

7.2 DeleteDisk

Releases a *Pay-As-You-Go* cloud disk when it is no longer in use.

Description

When you call this interface, consider the following:

- Your manual snapshot is retained in the console.

- You can call [ModifyDiskAttribute](#) to decide whether the automatic snapshots of your cloud disk is retained or released along with the disk. We recommend that you delete unnecessary snapshots to guarantee an enough snapshot data storage for periodical automatic snapshot policies.
- When you release a specified cloud disk, the status of the disk must be **Available**.
- If the specified cloud disk does not exist, your request is ignored.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DeleteDisk.
DiskId	String	Yes	The ID of the cloud disk to be released.

Response parameters

全是公共返回参数。参阅[#####](#)。

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DeleteDisk
&DiskId=d-23jbf2v5m
&<Common Request Parameters>
```

Response example

XML format

```
<DeleteDiskResponse>
<RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
</DeleteDiskResponse>
```

JSON format

```
{
  "RequestId": "CEF72CEB-54B6-4AE8-B225-F876FF7BA984"
}
```

Error codes

以下为本接口特有的错误码。更多错误码，请访问[API#####](#)。

Error code	Error message	HTTP status code	Meaning
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot of the specified cloud disk is being created. Please try again later.
DiskNotPortable	The specified disk is not a portable disk.	403	The disk cannot be detached.
DiskTypeViolation	The specified disk is a system disk and cannot support the operation.	403	The specified cloud disk is a system disk and cannot be released.
IncorrectDiskStatus	The current disk status does not support this operation.	403	The status of the cloud disk must be Available .

7.3 DescribeDisks

Queries your available cloud disks.

Description

- You can specify request parameters to separate the possible response results. Request parameters, such as `RegionId`, `ZoneId`, `DiskIds`, and `InstanceId` act as a filter, and parameters are passed in the logical relation of AND (AND).
- The value of parameter `DiskIds` is a JSON array in the format of ["DiskId1", "DiskId2", "DiskId3", ...], you can specify at most 100 DiskId each time. If `DiskIds` is not passed (that is, []), all your cloud disks are queried.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeDisks.
RegionId	String	Yes	The Region ID of the disk. For more information, call DescribeRegions to

Name	Type	Required	Description
			obtain the latest region list.
Encrypted	Boolean	No	Filter an encrypted disk. Optional values: • true: Only query encrypted disks. • false: Have no restriction on the encryption attribute. Default value: false.
ZoneId	String	No	The default value is null, which indicates a query of disks in all zones.
DiskIds	String	No	ID of the disk. ID of the disk. A formatted JSON Array: ["d-xxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz"]. A maximum of 10 IDs separated by single-byte commas.
InstanceId	String	No	ID of an instance.
DiskType	String	No	The type of disk. Optional values: • all: Queries the system disk and data disks at the same time. • system: Queries the system disk only. • data: Queries the data disk only. The default value: all.
Category	String	No	The disk category. Optional values:

Name	Type	Required	Description
			- all: All kinds of disks. - cloud: Basic cloud disk. - cloud_efficiency: Ultra cloud disk. - cloud_ssd: Cloud SSD. - ephemeral: Ephemeral disk. - local_hdd_pro: Local SATA HDD. - local_ssd_pro: Local NVMe SSD. - ephemeral_ssd: Ephemeral SSD. Default value: all.
Status	String	No	Disk status. See Basic Cloud Disk Status for more information. Optional values: - In_use - Available - Attaching - Detaching - Creating - Relniting - All The default value: All.
SnapshotId	String	No	The snapshot used to create the disk.
DiskName	String	No	The name of queried disk.
Portable	String	No	Whether or not the disk can be detached. Optional values:

Name	Type	Required	Description
			• True: Disks can be freely attached and detached in a zone. • False: Disks are created and deleted along with instances. If you attach or detach the specified disk, query disks with a property value of true. However, disk categories as follows have Portable=False by default. • Local disks. For ephemeral disks, • Ephemeral SSD. • System disk that use basic cloud disk, cloud efficiency disk, and cloud SSD. • Subscribed disk that use basic cloud disk, cloud efficiency disk, and cloud SSD. false indicates you cannot attach or detach the preceding disks independently.
DeleteWithInstance	String	No	Whether or not the disk is released along with the instance. Optional values: • true: When the instance is released, this disk is released with it.

Name	Type	Required	Description
			• false: When the instance is released, this disk is retained. Default value: false.
DeleteAutoSnapshot	String	No	Whether or not auto snapshots are deleted when the disk is deleted. Optional values: • true: The auto snapshots are deleted with the disk. • false: The auto snapshots are retained. Default value: false.
EnableAutoSnapshot	String	No	Whether the queried cloud disks have been applied automatic snapshot policies. Optional values: • true: The queried cloud disks have been applied automatic snapshot policies. • false: The queried cloud disks have no automatic snapshot policies applied. Default value: false.
Tag.n.Key	String	No	The key of tag to which your cloud disk has been attached.

Name	Type	Required	Description
			Value range of n: [1, 5]. It cannot be null.
Tag.n.Value	String	No	The value of tag to which your cloud disk has been attached. Value range of n: [1, 5]. It can be null.
PageNumber	Integer	No	The current page of the disk status list. The start value: 1. Default value: 1.
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value: 100. Default value: 10.

Response parameters

Name	Type	Description
Encrypted	Boolean	Whether it is an encrypted disk .
TotalCount	Integer	The total number of instances.
PageNumber	Integer	The page number of the instance list.
PageSize	Integer	The number of lines per page set during input.
Disks	DiskItemType	A collection composed of disk information, such as DiskItemType.

Examples

Request example

```
https://ecs.aliyuncs.com/?action=DescribeDisks
&RegionId=cn-qingdao
&PageNumber=1
&ZoneId=cn-qingdao-b
```

&<Common Request Parameters>

Response example

XML format

```
<DescribeDisksResponse>
  <Disks>
    <Disk>
      <DeleteAutoSnapshot>true</DeleteAutoSnapshot>
      <DeleteWithInstance>false</DeleteWithInstance>
      <EnableAutoSnapshot>false</EnableAutoSnapshot>
      <Category>cloud</Category>
      <Description></Description>
      <DiskName></DiskName>
      <Size>5</Size>
      <Type>data</Type>
      <InstanceId></InstanceId>
      <CreationTime>2014-07-23T02:44:07Z</CreationTime>
      <ImageId></ImageId>
      <ZoneId>cn-qingdao-b</ZoneId>
      <AttachedTime>2014-07-23T07:47:35Z</AttachedTime>
      <DetachedTime>2014-07-23T08:28:48Z</DetachedTime>
      <Device></Device>
      <OperationLocks></OperationLocks>
      <Portable>true</Portable>
      <ProductCode></ProductCode>
      <RegionId>cn-qingdao</RegionId>
      <DiskId>d-28m5zbua0</DiskId>
      <SourceSnapshotId></SourceSnapshotId>
      <Status>Available</Status>
    </Disk>
    <Disk>
      <DeleteAutoSnapshot>true</DeleteAutoSnapshot>
      <DeleteWithInstance>false</DeleteWithInstance>
      <EnableAutoSnapshot>false</EnableAutoSnapshot>
      <Category>cloud</Category>
      <Description></Description>
      <DiskName></DiskName>
      <Size>5</Size>
      <Type>data</Type>
      <InstanceId></InstanceId>
      <CreationTime>2014-07-23T02:44:06Z</CreationTime>
      <ImageId></ImageId>
      <ZoneId>cn-qingdao-b</ZoneId>
      <AttachedTime></AttachedTime>
      <DetachedTime></DetachedTime>
      <Device></Device>
      <OperationLocks></OperationLocks>
      <Portable>true</Portable>
      <ProductCode></ProductCode>
      <RegionId>cn-qingdao</RegionId>
      <DiskId>d-28zfrmo13</DiskId>
      <SourceSnapshotId></SourceSnapshotId>
      <Status>Available</Status>
    </Disk>
  </Disks>
  <PageNumber>1</PageNumber>
  <PageSize>2</PageSize>
  <TotalCount>9</TotalCount>
  <RequestId>ED5CF6DD-71CA-462C-9C94-A61A78A01479</RequestId>
```

```
</DescribeDisksResponse>
```

JSON format

```
{
  "Disks": {
    "Disk": [
      {
        "AttachedTime": "2014-07-23T07:47:35Z",
        "Category": "cloud",
        "CreationTime": "2014-07-23T02:44:07Z",
        "DeleteAutoSnapshot": true,
        "DeleteWithInstance": false,
        "EnableAutoSnapshot": false,
        "Description": "",
        "DetachedTime": "2014-07-23T08:28:48Z",
        "Device": "",
        "DiskId": "d-28m5zbua0",
        "DiskName": "",
        "ImageId": "",
        "InstanceId": "",
        "OperationLocks": {
          "OperationLock": []
        },
        "Portable": true,
        "ProductCode": "",
        "RegionId": "cn-qingdao",
        "Size": 5,
        "SourceSnapshotId": "",
        "Status": "Available",
        "Type": "data",
        "ZoneId": "cn-qingdao-b"
      },
      {
        "AttachedTime": "",
        "Category": "cloud",
        "CreationTime": "2014-07-23T02:44:06Z",
        "DeleteAutoSnapshot": true,
        "DeleteWithInstance": false,
        "EnableAutoSnapshot": false,
        "Description": "",
        "DetachedTime": "",
        "Device": "",
        "DiskId": "d-28zfrmo13",
        "DiskName": "",
        "ImageId": "",
        "InstanceId": "",
        "OperationLocks": {
          "OperationLock": []
        },
        "Portable": true,
        "ProductCode": "",
        "RegionId": "cn-qingdao",
        "Size": 5,
        "SourceSnapshotId": "",
        "Status": "Available",
        "Type": "data",
        "ZoneId": "cn-qingdao-b"
      }
    ]
  }
}
```

```

    "PageNumber": 1,
    "PageSize": 2,
    "RequestId": "ACD9BBB0-A9D1-46D7-9630-B7A69889E110",
    "TotalCount": 9
  }

```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
InvalidCategory. ValueNotSupported	The specified disk category is not supported.	400	The specified Category is not supported. Otherwise, you are not authorized to use the specified DiskType.
InvalidDiskType. ValueNotSupported	The specified disk type is not supported.	400	The specified DiskType is not supported.
InvalidRegion. NotFound	The specified parameter RegionId is not valid.	400	The specified RegionId does not exist.
InvalidStatus. ValueNotSupported	The specified disk status is not supported.	400	The specified Status is not supported.
InvalidTag.Mismatch	The specified Tag.n.Key and Tag.n.Value are not match.	400	The specified Tag .n.Key and Tag .n.Value must be matched.
InvalidTagCount	The specified tags are beyond the permitted range.	400	A maximum of 5 Tag.n.Key can be specified.
InvalidZoneld. NotFound	The Zoneld provided does not exist.	400	The specified ZoneId does not exist.
InvalidDiskIds. Malformed	The amount of specified disk Ids exceeds the limit.	403	The maximum number of DiskId is exceeded.
InvalidDiskChargeType. NotFound	The DiskChargeType does not exist.	404	The specified DiskChargeType does not exist.

Error code	Error message	HTTP status code	Description
InvalidLockReason.NotFound	The specified LockReason is not found.	404	The specified LockReason does not exist.

7.4 AttachDisk

Attaches a data disk to an instance.

Description

When you call this interface, consider the following:

- The target instance must be in the **Running** (Running) or **Stopped** (Stopped).
- The target cloud disk must be in the **Available** (Available) status.
- The `OperationLocks` of the *locked* instance cannot be "LockReason" : "security".
- Even if you set the `DeleteWithInstance` to false when attaching the cloud disk, once the instance is locked and the `OperationLocks` of the instance indicates "LockReason" : "security", when you release the instance, the `DeleteWithInstance` attribute of the cloud disk is ignored and the disk is released along with the instance.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: AttachDisk.
InstanceId	String	Yes	The ID of the target instance.
DiskId	String	Yes	Indicates the cloud disk ID. The cloud disk (DiskId) and instance (InstanceId) must be in the same zone.
DeleteWithInstance	Boolean	No	When the instance is released, whether the cloud disk is released along with the instance or retained. Default value: False.

Response parameters

All are common response parameters. See [Common response parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AttachDisk
&InstanceId=i-23jggx34b
```

```
&DiskId=d-23jbf2v5m
&<Common Request Parameters>
```

Response example

XML format

```
<AttachDiskResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
</AttachDiskResponse>
```

JSON format

```
{
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
IncorrectInstanceStatus	The current status of the resource does not support this operation.	400	The target instance must be in the Running (Running) or Stopped (Stopped) status.
InvalidParameter	The input parameter is mandatory for processing this request is empty.	400	The specified DeleteWithInstance is invalid.
DiskError	IncorrectDiskStatus.	403	The target disk must be in the Available (Available) status.
DiskId.ValueNotSupported	The specified parameter diskid is not supported.	403	The specified DiskId is not supported.
DiskInArrears	The specified operation is denied as your disk owing fee.	403	The specified instance has an outstanding payment.
DiskNotPortable	The specified disk is not a portable disk.	403	The specified disk cannot be detached.

Error code	Error message	HTTP status code	Meaning
IncorrectDiskStatus	The operation is not supported in this status.	403	The target disk must be in the Available (Available) status.
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The specified instance has an outstanding payment.
InstanceLockedForSecurity	The instance is locked due to security .	403	The instance is locked for security reasons.
InvalidDeviceInUse	The specified device has been occupied.	403	The specified disk has already been attached to another instance.
ResourcesNotInSameZone	The specified instance and disk are not in the same zone.	403	The specified disk and instance are not in the same zone.
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified cloud disk does not exist.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified instance does not exist.

7.5 DetachDisk

Detaches a cloud disk from a specified instance. The disk category can be basic cloud disk, efficiency cloud disk, and cloud SSD disk.

Description

When you call this interface, consider the following:

- The `Portable` attribute of the cloud disk must be `True`.
- The status of the specified cloud disk must be **In Use** (`In_Use`).
- The status of the specified instance must be **Running** (`Running`) or **Stopped** (`Stopped`).
- If the specified instance is *locked*, `OperationLocks` of the instance cannot be `"LockReason": "security"`.
- After a cloud disk is detached, the `DeleteWithInstance` attribute of the target cloud disk is automatically set to `false`.

- The actions are asynchronous tasks, you may wait for a few minutes before the action is completed, and the duration is about one minutes.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DetachDisk.
InstanceId	String	Yes	The ID of the target ECS instance.
DiskId	String	Yes	The ID of the disk.

Response parameters

All are common response parameters. For more information, see [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DetachDisk
&InstanceId=i-23jggx34b
&DiskId=d-23jbf2v5m
&<Common Request Parameters>
```

Response example

XML format

```
<DetachDiskResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
</DetachDiskResponse>
```

JSON format

```
{
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, visit the [API Error Code Center](#).

Error code	Error message	HTTP status code	Meaning
MissingParameter	The input parameter InstanceId that is mandatory for processing this request is not supplied.	400	You must specify a InstanceId.
DependencyViolation	The specified disk has not been attached on the specified instance.	403	The specified disk is not attached to the specified instance.
DiskNotPortable	The specified disk is not a portable disk.	403	The specified disk cannot be detached.
DiskTypeViolation	The specified disk is a system disk and cannot support the operation.	403	You cannot detach a system disk from your instance.
IncorrectDiskStatus	The current disk status does not support this operation.	403	The status of the specified cloud disk must be In Use (In Use).
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the specified instance must be Running (Running) or Stopped (Stopped).
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance is locked for the sake of security.
InvalidDiskId.Released	The specified disk has been released.	403	The specified disk has been released.
InvalidDiskId.NotFound	The specified DiskId does not exist.	404	The specified disk does not exist.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified disk does not exist.

7.6 ModifyDiskChargeType

Modifies the billing method for up to 16 disks that are attached to an instance.

Description

When calling this operation, consider the following:

- Changing the billing method from Subscription to Pay-As-You-Go is suitable for subscribed disks that are attached to a subscribed instance.
- Changing the billing method from Pay-As-You-Go to Subscription is suitable for Pay-As-You-Go data disks that are attached to a subscribed or Pay-As-You-Go instance.
- This instance cannot be suspended and have overdue payment.
- Billing method that was successfully modified cannot be changed again within 5 minutes.
- By default, the system uses the latest billing method to automatically charge fees. Make sure that your account balance is sufficient. If your account has insufficient funds, the system regards your order as an exception, and you have to cancel this order. If your account balance is insufficient, set `AutoPay` to `false`. The system then generates a normal unpaid order for the outstanding payment. You can log on to the [ECS console](#) to pay for this order.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform . Value: ModifyDiskChargeType.
DiskIds	String	Yes	The list of disk identifiers. This is a JSON formatted array ["d-xxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz"], including up to 16 identifiers . These identifiers are separated with commas (,).
InstanceId	String	Yes	The identifier of an instance that disks are attached to.

Name	Type	Required	Description
RegionId	String	Yes	The region identifier of an instance. You can call DescribeRegions to view the list of latest regions of Alibaba Cloud.
DiskChargeType	String	No	The billing method for disks. Optional values: - PrePaid: Changes the billing method from Pay-As-You-Go to Subscription. - PostPaid: Changes the billing method from Subscription to Pay-As-You-Go. Default value: PrePaid.
DryRun	Boolean	No	Whether the system performs a dry run only. When DryRun is true, the system performs a dry run only, but does not change the actual billing method. Optional values: - true - false Default value: false.
AutoPay	Boolean	No	Whether automatic payment is enabled. Optional values: true: Automatic payment is enabled. Make sure that you maintain a

Name	Type	Required	Description
			sufficient balance in the linked credit card or PayPal account to complete the payment. Otherwise, ECS regards your order as an exception, and you have to cancel this order. • false: Generates the order, but does not charge fees. If your PayPal balance is insufficient or the linked credit card reaches the credit limit, the system generates a normal unpaid order for the outstanding payment. You can log on to the ECS console to complete the payment. Default value: true.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be unique. It can contain a maximum of 64 ASCII characters. For more information, see How to ensure idempotence.

Response parameters

Name	Type	Description
OrderId	Long	The generated order identifier.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyDiskChargeType
&RegionId=cn-hangzhou
&DiskIds=["d-xxxxx1","d-xxxxx2"]
&InstanceId=i-xxxxx1
&AutoPay=false
&ClientToken=xxxxxxxxxxxxxx
&<Common Request Parameters>
```

Response example

XML format

```
<ModifyDiskChargeType>
  <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
  <Order>1011111111111111</Order>
</ModifyDiskChargeType>
```

JSON format

```
{
  "RequestId": "04F0F334-1335-436C-A1D7-6C044FE73368",
  "Order": 1011111111111111,
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
Account.Arrearage	Your account has an outstanding payment.	400	Your account has an outstanding payment.
IdempotencieParamNotMatch	Request uses a client token in a previous request but is not identical to that request.	400	The parameters of the requests that use the same ClientToken do not match.
InvalidClientToken.ValueNotSupported	The ClientToken provided is invalid.	400	The ClientToken value is invalid.

Error code	Error message	HTTP status code	Description
			It should be ASCII characters only.
InvalidInstance. UnpaidOrder	The specified instance has unpaid order.	400	The specified instance has an unpaid order.
InvalidInstanceId. Released	The specified instance has been released.	400	The specified instance has been released.
OrderCreationFailed	Order creation failed , please check your params and try it again later.	400	Order creation has failed.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	You've made too many attempts. Please try again later.
ChargeTypeViolation	The operation is not permitted due to charge type of the instance.	403	The billing method of the specified instance does not support this operation.
InvalidAccountStatus. NotEnoughBalance	Your account does not have enough balance.	403	The account balance is insufficient.
InvalidPayMethod	The specified billing method is invalid.	403	The specified billing method does not exist.
InvalidUser. PassRoleForbidden	The RAM user does not have privilege to pass a role.	403	Your RAM user does not have the PassRole permission. Contact the owner of the primary account to grant the PassRole permission.
InvalidDiskIds. NotFound	Some of the specified data disks do not exist.	404	The disk identifier does not exist.
InvalidDiskIds. NotPortable	The specified DiskId is not portable.	404	The specified undetachable disk does not support changing the billing method.

Error code	Error message	HTTP status code	Description
InvalidRegionId.NotFound	The RegionId provided does not exist.	404	The specified RegionId does not exist.
PaymentMethodNotFound	No billing method has been registered on the account.	404	You have not selected any billing method.
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	Internal error.

7.7 ModifyDiskAttribute

Modifies the attribute of a cloud disk.

Description

In this interface, when the **DeleteWithInstance** (DeleteWithInstance=false) attribute is set to false, once the ECS instance on which the disk is attached is *locked* and the OperationLocks of instance indicates "LockReason" : "security", the DeleteWithInstance attribute of disk is ignored and the disk is released along with the instance.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ModifyDiskAttribute.
DiskId	String	Yes	ID of the target disk.
DiskName	String	No	The disk name. It can contain [2, 128] English letters and must begin with an uppercase or lowercase letter. Can contain digits, colons (:), periods (.), underscores (_), and hyphens (-).

Name	Type	Required	Description
			- It cannot begin with <code>http://</code> or <code>https://</code>. - If it is left empty, the original value is used. The default value is null.
Description	String	No	The description of a disk. - It can contain [2, 256] letters and must begin with an uppercase or lowercase letter. Can contain digits, colons (:), periods (.), underscores (_), and hyphens (-). - Cannot begin with <code>http://</code> or <code>https://</code>. - If it is left empty, the original value is used. The default value is null.
DeleteWithInstance	String	No	Whether the disk is released along with the instance or not. Optional values: - True: If the instance is released, this disk is also released. - False: If the instance is released, this disk is retained. Default value: None. In the following conditions, when you set <code>DeleteWith</code>

Name	Type	Required	Description
			Instance to false, an error is returned. - When the Category (category) attribute of disk is ephemeral (ephemeral). - When the Category (category) attribute of disk is cloud (cloud) and the Portable (Portable=false) attribute is false.
DeleteAutoSnapshot	String	No	Whether the automatic snapshots of a cloud disk are deleted or not when the disk is deleted. Optional values: - True: If the disk is released, its automatic snapshots are also released. - False: If the disk is released, its automatic snapshots are retained. Default value: None.
EnableAutoSnapshot	String	No	If you have created an automatic snapshot policy, you can decide whether an automatic snapshot policy is applied to the disk or not. Optional values:

Name	Type	Required	Description
			• True: The disk runs an automatic snapshot policy. • False: The disk does not run an automatic snapshot policy. Default value: None.

Response parameters

All are common return parameters. For more information, see [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyDiskAttribute
&DiskId=d-23jbf2v5m
&DiskName=MyDiskName
&<Common Request Parameters>
```

Response example

XML format

```
<ModifyDiskAttributeResponse>
  <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
</ModifyDiskAttributeResponse>
```

JSON format

```
{
  "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
InvalidDiskName. Malformed	The specified disk name is wrongly formed.	400	The format of the specified DiskName is incorrect.

Error code	Error message	HTTP status code	Meaning
NoAttributeToModify	No attribute to be modified in this request.	400	Duplicate requests.
DiskNotPortable	The specified disk is not a portable disk.	403	When you set the <code>DeleteWithInstance=false</code> attribute, you cannot set the attribute <code>Portable</code> of the specified cloud disk to <code>false</code> .
IncorrectDiskStatus	The operation is not supported in this status.	403	The status of the cloud disk is incorrect. For more information, see Basic cloud disk status .
InvalidDescription. Malformed	The specified description is wrongly formed.	404	The format of specified <code>Description</code> is incorrect.
InvalidDiskId. NotFound	The specified disk does not exist.	404	The specified <code>DiskId</code> does not exist.

7.8 ReplaceSystemDisk

Replaces the system disk or changes the operating system of an ECS instance.

Description

When you call this interface, consider the following:

- You cannot change the category of the system disk for your ECS instance.
- The billing method of the system disk remains unchanged. However, the disk ID of the system disk for your ECS instance is replaced. The original system disk is released once the action is completed.
- The instance must be in the **Stopped** (Stopped) status. If your VPC-Connected instance has the No fees for stopped instances (VPC-Connected) feature enabled, we recommend that you disable the feature when you stop the instance to guarantee a successful restart attempt. For more information, see [StopInstance](#).

- If the specified instance is *locked*, the `OperationLocks` of the instance cannot be `"LockReason": "security"`.
- The ECS instance cannot have an unpaid order.
- You can specify the size of the new system disk by specifying the parameter `SystemDisk.Size`. The `SystemDisk.Size` must be equal to or greater than $\max\{20, [\text{size of the current system disk}]\}$. Extra fees are charged for the size that exceeds $\max\{20, [\text{the volume of current system disk}]\}$.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>ReplaceSystemDisk</code> .
InstanceId	String	Yes	The ID of the specified instance.
ImageId	String	Yes	The ID of the image used when you replace the system disk.
Password	String	No	Password of your ECS instance. • It can be [8, 30] characters in length and must contain the three types of characters, letters, digits, and special symbols. • Special symbols include () ` ~ ! @ # \$ % ^ & * - + = { } [] ; ; ' < > , . ? / If you specify the <code>Password</code> parameter, use HTTPS to call the API to avoid password breach.

Name	Type	Required	Description
PasswordInherit	Boolean	No	Whether or not to use the password pre-configured in the image you select. PasswordInherit is specified, the Password must be null. For a secured access, make sure that the selected image has password configured.
KeyPairName	String	No	Key pair name. - For a Windows instance, ignore this parameter, and the default value is null. If a value is set for the KeyPairName parameter, the parameter Password is still effective. - For a Linux instance, the password of username is disabled if a value is set for the KeyPairName parameter.
SystemDisk.Size	Integer	No	Size of the new system disk, measured in GiB. Valid range: [Max{20, [the size of the specified image file]}, 500].

Name	Type	Required	Description
			Default value: Max{40, [the size of the specified image file]}.
ClientToken	String	No	Used to guarantee the idempotence of the request. The value is generated by the client. The client token must be unique among all requests and contain up to 64 ASCII characters. For more information, see the appendix How to ensure idempotence .
SecurityEnhancementStrategy	String	No	Whether or not to activate the security enhancement feature and install network security software free of charge. Optional values: • Active: Enables the security enhancement feature and install network security software free of charge. Only applicable to the ECS official images . • Deactive: Disables the security enhancement feature and no network security software installation . Applicable to all kinds of images.

Response parameters

Name	Type	Description
DiskId	String	Indicates the disk ID of the new system disk.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ReplaceSystemDisk
&InstanceId=i-23jggx34b
&ImageId=m-myimage11
&<Common Request Parameters>
```

Response example

XML format

```
<ReplaceSystemDiskResponse>
  <DiskId>d-23jbf2v5m</DiskId>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673DE</RequestId>
</ReplaceSystemDiskResponse>
```

JSON format

```
{
  "RequestId": "337568C5-64F3-4B76-8CDD-D3D8C57B5B8C",
  "DiskId": "d-j6cam2z21u4ks3dj6flb"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
InvalidParameter. Conflict	The specified image does not support the specified instance type.	400	The specified image cannot run in the specified instance type.
InvalidPassword. Malformed	The specified parameter "Password" is not valid.	400	The specified Password is invalid.
InvalidPasswordParam.Mismatch	The input password should be null when passwdInherit is true.	400	When PasswordInherit is specified, the Password must be null.

Error code	Error message	HTTP status code	Meaning
InvalidSystemDiskSize	The specified parameter SystemDisk.Size is invalid.	400	The specified SystemDisk.Size is invalid.
InvalidSystemDiskSize.ImageNotSupportResize	The specified image does not support resize.	400	You cannot specify the SystemDisk.Size for the specified ImageId.
InvalidSystemDiskSize.ValueNotSupported	The specified parameter SystemDisk.Size is invalid.	400	The specified SystemDisk.Size is invalid.
OperationDenied	The specified image contains the snapshot of the data disk, does not support this operation.	400	You cannot change the system disk of the specified instance when the specified image is created by using a snapshot that contains data of data disks.
ChargeTypeViolation	The operation is not permitted due to charge type of the instance.	403	You cannot change the system disk for the specified instance because of its billing method.
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot is being created for the specified disk, please try again later.
ImageNotSubscribed	The specified image has not been subscribed.	403	You must subscribe the specified image before the action.
ImageNotSupportInstanceType	The specified image does not support the InstanceType instance.	403	The specified image cannot run in the specified category of the instance.
ImageRemovedInMarket	The specified market image is not available, Or the specified user defined image	403	The specified ImageId is no longer available in the cloud market.

Error code	Error message	HTTP status code	Meaning
	includes product code because it is based on an image subscribed from marketplace, and that image in marketplace including exact the same product code has been removed.		
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the ECS instance must be Stopped.
INST_HAS_UNPAID_ORDER	The instance has unpaid order.	403	An unpaid order exists for the specified instance.
Instanceexpiredorin arrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The specified instance has an overdue payment.
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance is locked for security reasons.
IoOptimized.NotSupported	The specified image is not support IoOptimized Instance.	403	The specified ImageId must be able to run in an I/O optimized instance.
QuotaExceed.BuyImage	The specified image is from the image market. You have not bought it or your quota has been exceeded.	403	You must purchase the specified ImageId before the action. You have reached the maximum number of available images purchased by you.
InvalidImageId.NotFound	The specified ImageId does not exist.	404	The specified ImageId does not exist.

Error code	Error message	HTTP status code	Meaning
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.
InvalidSystemDiskSize.LessThanImageSize	The specified parameter SystemDisk.Size is less than the image size.	404	The specified SystemDisk.Size cannot be smaller than the size of the ImageId system disk.
InvalidSystemDiskSize.LessThanMinSize	The specified parameter SystemDisk.Size is less than the min size.	404	The specified SystemDisk.Size cannot be smaller than 40 GiB.
InvalidSystemDiskSize.MoreThanMaxSize	The specified SystemDisk.Size parameter exceeds the maximum size.	404	The specified SystemDisk.Size cannot exceed 500 GiB.
NoSuchResource	The specified resource is not found.	404	The specified resource does not exist.
OperationDenied	Internal Error.	500	Internal error, please try again later.

7.9 ReinitDisk

Initializes a cloud disk to the initial state.

Description

When you call this interface, consider the following.

- The status of the disk must be **In Use** (In_use) and the status of corresponding instance to which the disk is attached must be **Stopped** (Stopped).
- After you create an instance, if you have not activated it yet, you cannot initialize its attached disk.
- A system disk will be initialized to the initial state of the image. If the source image used to create the disk is deleted, initialization fails.
- A independently created data disk will be initialized to the empty disk state.

- A data disk that is created by using a snapshot will be initialized to the snapshot state. If the source image used to create the disk is deleted, initialization fails and an error is returned.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ReInitDisk.
DiskId	String	Yes	The ID of the disk device.
SecurityEnhancementStrategy	String	No	Whether to activate the security enhancement feature and install network security software or not. Optional values: • Active: Enable the security enhancement feature and install free network security software. Only applicable to the Alibaba Cloud public images. • Deactive: Disable the security enhancement feature and no network security software installation. Applicable to all kinds of images.

Response parameters

All are common response parameters. For more information, see [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ReInitDisk
```

```
&DiskId=d-23jbf2v5m
&<Common Request Parameters>
```

Response example

XML format

```
<ReInitDiskResponse>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673DE</RequestId>
</ReInitDiskResponse>
```

JSON format

```
"RequestId": "F3CD6886-D8D0-4FEE-B93E-1B73239673DE"
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
DiskCategory. OperationNotSupported	The operation is not supported to the specified disk due to its disk category.	400	The operation is denied due the category of the disk.
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot is being created for the specified disk, please try again later.
IncorrectDiskStatus	The current disk status does not support this operation.	403	The status of the specified disk must be In Use (In_use).
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the specified instance must be Stopped (Stopped).
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The instance to which the specified disk is attached is halted and has an outstanding payment.

Error code	Error message	HTTP status code	Meaning
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified disk has been <i>locked</i> for the sake of security.
InvalidSnapshot.TooOld	The disk is created from a snapshotId made before 2013-07-15, it cannot be re-initiated the specified disk any more since the detached first time.	403	The specified disk was created on or before July 15, 2013, and you cannot initialize the disk consequently.
InvalidSourceSnapshot	The snapshot which is used to create the specified disk has been deleted.	403	The snapshot by which the specified disk is created has been deleted, and you cannot initialize the disk consequently.
OperationDenied	The snapshot which is used to create the specified disk has been deleted.	403	The snapshot by which the specified disk is created has been deleted, and you cannot initialize the disk consequently.
SharedImageDeleted	The specified image by others shared is deleted.	403	The shared image by which the specified disk is created has been deleted, and you cannot initialize the disk consequently.
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified disk does not exist.

7.10 ResetDisk

Rolls back a disk to a specified disk state by using one of its disk snapshots.

Description

When you call this interface, consider the following:

- The status of the disk must be **In Use** (In_Use).

- The status of the ECS instance to which the specified disk is attached must be **Stopped** (Stopped).
- The specified SnapshotId must be one of the disk (DiskId) history snapshots.
- If the specified instance is *locked*, the OperationLocks of the instance cannot be "LockReason": "security".

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ResetDisk.
DiskId	String	Yes	ID of the specified disk device.
SnapshotId	String	Yes	The snapshot ID of the disk that is to be rolled back.

Response parameters

All are common response parameters. For more information, see [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ResetDisk
&DiskId=d-23jbf2v5m
&SnapshotId=s-snapshot1
&<Common Request Parameters>
```

Response example

XML format

```
<ResetDiskResponse>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673DE</RequestId>
</ResetDiskResponse>
```

JSON format

```
{
  "RequestId": "F3CD6886-D8D0-4FEE-B93E-1B73239673DE"
```

}

Error codes

Error codes specific to this interface are as follows. For more information, visit the [API Error Code Center](#).

Error code	Error message	HTTP status code	Meaning
DiskCategory. OperationNotSupported	The operation is not supported to the specified disk due to its disk category.	400	The category of the specified disk does not support rolling back.
IncorrectDiskStatus	The current disk status does not support this operation.	403	The status of the disk must be In Use (In_Use).
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the ECS instance to which the specified is attached must be Stopped (Stopped).
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	Your subscription instance has expired . Or your Pay-As-You-Go instance has an overdue payment.
InstanceLockedForSecurity	The instance is locked due to security.	403	Your instance has been locked for security reasons.
InvalidAccountStatus. NotEnoughBalance	Your account does not have enough balance.	403	You registered credit card is invalid. Or insufficient balance in your PayPal account.
InvalidAccountStatus. SnapshotServiceUnavailable	Snapshot service has not been opened yet.	403	You have not signed up for the snapshot service yet. Please visit the ECS console to sign up and activate your account.
InvalidParameter. Mismatch	The specified snapshot is not	403	The specified SnapshotId must be

Error code	Error message	HTTP status code	Meaning
	created from the specified disk.		one of the disk history snapshots.
InvalidSnapshot. TooOld	The snapshotId is created before 2013-07-15, it cannot be restored since the first time the disk detached.	403	The specified snapshot was created on or before July 15, 2013, and it cannot be used to roll back a disk.
InvalidSnapshotId. NotReady	The specified snapshot has not completed yet.	403	The specified snapshot is being created, please try again later.
OperationDenied	The specified snapshot does not support ResetDisk.	403	The specified snapshot cannot be used to roll back the disk.
InvalidDiskId. NotFound	The specified DiskId does not exist.	404	The specified disk does not exist.
InvalidSnapshotId. NotFound	The specified SnapshotId does not exist.	404	The specified disk does not exist.

7.11 ResizeDisk

Extends the size of a cloud disk.

Description

When you call this interface, consider the following:

- You can only extend the size of a data disk instead of a system disk.
- You can only extend the size of a basic cloud disk (Cloud), an ultra cloud disk (Cloud_efficiency), or an SSD cloud disk (Cloud_ssd).
- You cannot extend the size of a disk when it is used to create a snapshot.
- If a data disk has been attached to an ECS instance:
 - The instance must be in the **Running** (Running) or **Stopped** (Stopped) status.
 - The instance must be **restarted** in the ECS console or by calling the API **RebootInstance** after the size extension.

- This action only extends the capacity of a data disk, and the partitions and the file system are not modified. After the operation, you must manually allocate the storage space.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ResizeDisk.
DiskId	String	Yes	The ID of a disk.
NewSize	Integer	Yes	Extends the size of a disk to a specified value. The unit of measurement is GiB. Value range: • For a Basic cloud disk (Cloud): [5, 2000] • For an Ultra cloud disk (Cloud_efficiency): [5, 2000] • For an SSD cloud disk (Cloud_ssd): [5, 2000] The value of NewSize must be greater than the former size of your disk. A disk that is smaller than 2,000 GiB cannot be extended to a size more than 2,000 GiB.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client. The client token must be unique among all requests and can only contain up to 64 ASCII characters.

Name	Type	Required	Description
			For more information, see How to ensure idempotence .

Response parameters

All parameters are common response parameters. For more information, see [Common parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ResizeDisk
&DiskId=xxx
&NewSize=1024
&<Common Request Parameters>
```

Response example

XML format

```
<ResizeDiskResponse>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673DE</RequestId>
</ResizeDiskResponse>
```

JSON format

```
{
  "RequestId": "F3CD6886-D8D0-4FEE-B93E-1B73239673DE"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot is being created for the specified disk, please try again later.
DiskError	IncorrectDiskStatus	403	Abnormal disk status.
DiskInArrears	The specified operation is denied as your disk owing fee.	403	Overdue payment on the specified disk.

Error code	Error message	HTTP status code	Description
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The instance to which the data disk is attached must be in the Running (Running) or Stopped (Stopped) status.
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The instance to which the data disk is attached has been out of service.
InvalidDiskSize.TooLarge	Specified new disk size is beyond the permitted range.	403	The maximum size of the specified disk is exceeded.
InvalidDiskSize.TooSmall	Specified new disk size is less than the original disk size.	403	The value of NewSize must be greater than the former size of your disk.
OperationDenied	The status of the disk or the instance that the disk is attaching with does not support the operation.	403	You can only extend the size of a data disk. Or the instance to which the data disk is attached must be in the Running (Running) or Stopped (Stopped) status.
OperationDenied	The type of the disk does not support the operation.	403	You can only extend the size of a Basic cloud disk, an Ultra cloud disk or an SSD cloud disk.
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified DiskId does not exist.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.

8 Monitoring

8.1 DescribeEniMonitorData

Queries data connection information about a secondary ENI over a specific period.

Description

The queryable traffic data on the secondary ENI traffic data includes intranet inbound and outbound traffic, the number of packets sent and received by the secondary ENI, and the number of packets discarded by the secondary ENI. If some content in the returned information is missing, it is possible that the system did not obtain the corresponding information. For example, the traffic data on the secondary ENI cannot be queried if the instance is in the **Stopped** status (Stopped). Data also cannot be queried if the secondary ENI is not mounted to an instance and in the **Available** status(Available). When you use this operation, consider the following:

- Each query can return up to 400 entries of monitoring data. If **(EndTime - StartTime)/Period > 400**, an error is returned.
- You can use a single query to search for monitoring data in the last 30 days. If the value of the StartTime parameter is more than 30 days, an error is returned.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: DescribeEniMonitorData.
InstanceId	String	Yes	Instance ID that is bound to the secondary ENI.
EniId	String	No	Secondary ENI ID. All secondary ENIs that are bound to the instance are queried by default.
StartTime	String	Required	The start time of the monitoring data to be retrieved. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ. If the specified number of seconds (ss) is not 00, the time will be automatically rounded up to the next minute.
EndTime	String	Yes	The end time of the monitoring data. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ. If the specified number of seconds

Name	Type	Required	Description
			(ss) is not 00, the time will be automatically rounded up to the next minute.
Period	Integer	Optional	Period of the retrieved monitoring data. Unit: second. Value range: 60 600 3600 Default value: 60.

Response parameters

Name	Type	Description
MonitorData	EniMonitorDataType	The set of monitoring data EniMonitorDataType for a secondary ENI.

Data type of EniMonitorDataType

Name	Type	Description
EniId	String	Secondary ENI ID.
TimeStamp	String	Traffic query timestamp. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
PacketTX	String	Number of intranet data packets sent by the secondary ENI.
PacketRX	String	Number of intranet data packets received by the secondary ENI.
IntranetTX	String	Intranet data traffic sent by the secondary ENI, in kbits.
IntranetRX	String	Intranet data traffic received by the secondary ENI, in kbits.
DropPacketTX	String	Number of discarded intranet data packets sent by the secondary ENI.
DropPacketRX	String	Number of discarded intranet data packets received by the secondary ENI.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeEniMonitorData
&EniId=eni-myENI
&InstanceId=myInstance
&StartTime=2018-05-21T12:19:00Z
&EndTime=2018-05-21T12:22:00Z
```

<Common Request Parameters>

Response examples

XML format

```
<DescribeEniMonitorDataResponse>
  <RequestId>5A03C2BA-3BCE-4A87-8076-7DC1629</RequestId>
  <TotalCount>4</TotalCount>
  <MonitorData>
    <EniMonitorData>
      <PacketTx>0</PacketTx>
      <TimeStamp>2018-05-21T03:22:00Z</TimeStamp>
      <IntranetOut>0</IntranetOut>
      <DropPacketRx>0</DropPacketRx>
      <IntranetIn>0</IntranetIn>
      <EniId>eni-myENI</EniId>
      <DropPacketTx>0</DropPacketTx>
      <PacketRx>0</PacketRx>
    </EniMonitorData>
    <EniMonitorData>
      <PacketTx>0</PacketTx>
      <TimeStamp>2018-05-21T03:21:00Z</TimeStamp>
      <IntranetOut>0</IntranetOut>
      <DropPacketRx>0</DropPacketRx>
      <IntranetIn>0</IntranetIn>
      <EniId>eni-myENI</EniId>
      <DropPacketTx>0</DropPacketTx>
      <PacketRx>0</PacketRx>
    </EniMonitorData>
    <EniMonitorData>
      <PacketTx>52240</PacketTx>
      <TimeStamp>2018-05-21T03:19:00Z</TimeStamp>
      <IntranetOut>73344</IntranetOut>
      <DropPacketRx>0</DropPacketRx>
      <IntranetIn>467</IntranetIn>
      <EniId>eni-myENI</EniId>
      <DropPacketTx>0</DropPacketTx>
      <PacketRx>6603</PacketRx>
    </EniMonitorData>
    <EniMonitorData>
      <PacketTx>34925</PacketTx>
      <TimeStamp>2018-05-21T03:20:00Z</TimeStamp>
      <IntranetOut>48871</IntranetOut>
      <DropPacketRx>0</DropPacketRx>
      <IntranetIn>350</IntranetIn>
      <EniId>eni-myENI</EniId>
      <DropPacketTx>0</DropPacketTx>
      <PacketRx>4888</PacketRx>
    </EniMonitorData>
  </MonitorData>
</DescribeEniMonitorDataResponse>
```

JSON format

```
{
  "RequestId": "5A03C2BA-3BCE-4A87-8076-7DC1629",
  "MonitorData": {
    "EniMonitorData": [
      {
```

```

        "PacketTx":0,
        "TimeStamp":"2018-05-21T03:22:00Z",
        "IntranetOut":0,
        "DropPacketRx":0,
        "IntranetIn":0,
        "EniId":"eni-myENI",
        "DropPacketTx":0,
        "PacketRx":0
    },
    {
        "PacketTx":0,
        "TimeStamp":"2018-05-21T03:21:00Z",
        "IntranetOut":0,
        "DropPacketRx":0,
        "IntranetIn":0,
        "EniId":"eni-myENI",
        "DropPacketTx":0,
        "PacketRx":0
    },
    {
        "PacketTx":52240,
        "TimeStamp":"2018-05-21T03:19:00Z",
        "IntranetOut":73344,
        "DropPacketRx":0,
        "IntranetIn":467,
        "EniId":"eni-myENI",
        "DropPacketTx":0,
        "PacketRx":6603
    },
    {
        "PacketTx":34925,
        "TimeStamp":"2018-05-21T03:20:00Z",
        "IntranetOut":48871,
        "DropPacketRx":0,
        "IntranetIn":350,
        "EniId":"eni-myENI",
        "DropPacketTx":0,
        "PacketRx":4888
    }
]
}
}

```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.
InvalidStartTime.Malformed	The specified parameter "StartTime" is not valid.	400	The specified parameter StartTime is invalid.

Error code	Error message	HTTP status code	Description
InvalidEndTime.Malformed	The specified parameter "EndTime" is not valid.	400	The specified parameter EndTime is invalid.
InvalidPeriod.ValueNotSupported	The specified parameter "Period" is not valid.	400	The specified parameter Period is invalid.
InvalidStartTime.TooEarly	The specified parameter "StartTime" is too early.	400	The specified StartTime must be within 30 days of the current day.
InvalidParameter.TooManyDataQueried	Too many data queried.	400	Attempted to query too much data. You can only query up to 400 entries of monitored data at a time.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	Your request is denied due to request throttling. Try again later.

8.2 DescribeDiskMonitorData

Queries the monitoring data of a specified disk. The monitoring data includes the operational behaviors such as the measured read IOPS, write IOPS, read bandwidth (Bps), write bandwidth (Bps), read latency (ms), and write latency (ms) of a disk. Because we cannot obtain the data if the disk is not in the In_Use status, some data may be missing from the returned result.

Description

When you call this interface, consider the following:

- You can only query monitoring information for the disks that are in the In_use status. For more information, see Basic cloud disk status.
- Returns at most 400 at a time. Up to 400 monitoring entries can be returned for one request. If the specified (EndTime-StartTime)/Period is greater than 400, an error is returned.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeDiskMonitorData.
DiskId	String	Yes	The disk ID.
StartTime	String	Yes	The start time. In UTC format. It is represented according to ISO8601, for example YYYY-MM-DDThh:mm:ssZ. If the seconds (ss) is not 00, it is set to start from the next minute.
EndTime	String	Yes	The end time, in UTC format. It is represented according to ISO8601, for example YYYY-MM-DDThh:mm:ssZ. If the seconds (ss) is not 00, it is set to end with the next minute.
Period	Integer	No	The granularity of the retrieved monitoring data. Unit of measurement: second. Optional values: • 60 • 600 • 3600 Default value: 60.

Response parameters

Name	Type	Description
TotalCount	Integer	The total number of disk monitoring data entries.
MonitorData	DiskMonitorDataType	A collection composed of disk monitoring data DiskMonitorDataType.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeDiskMonitorData
&DiskId=d-mydisk001
&StartTime=2014-07-23T12:07:00Z
&EndTime=2014-07-23T12:09:00Z
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeDiskMonitorDataResponse>
  <MonitorData>
    <DiskMonitorData>
      <BPSRead>0</BPSRead>
      <BPSTotal>0</BPSTotal>
      <BPSWrite>0</BPSWrite>
      <DiskId>d-23b3p4r8b</DiskId>
      <IOPSRead>0</IOPSRead>
      <IOPSTotal>0</IOPSTotal>
      <IOPSWrite>0</IOPSWrite>
      <TimeStamp>2014-07-23T12:07:00Z</TimeStamp>
    </DiskMonitorData>
    <DiskMonitorData>
      <BPSRead>0</BPSRead>
      <BPSTotal>204</BPSTotal>
      <BPSWrite>204</BPSWrite>
      <DiskId>d-23b3p4r8b</DiskId>
      <IOPSRead>0</IOPSRead>
      <IOPSTotal>0</IOPSTotal>
      <IOPSWrite>0</IOPSWrite>
      <TimeStamp>2014-07-23T12:08:00Z</TimeStamp>
    </DiskMonitorData>
    <DiskMonitorData>
      <BPSRead>0</BPSRead>
      <BPSTotal>819</BPSTotal>
      <BPSWrite>819</BPSWrite>
      <DiskId>d-23b3p4r8b</DiskId>
      <IOPSRead>0</IOPSRead>
      <IOPSTotal>0</IOPSTotal>
      <IOPSWrite>0</IOPSWrite>
      <TimeStamp>2014-07-23T12:09:00Z</TimeStamp>
    </DiskMonitorData>
  </MonitorData>
</DescribeDiskMonitorDataResponse>
```

```

    </MonitorData>
    <RequestId>BF666447-B171-4076-BCBA-48437C18FD76</RequestId>
    <TotalCount>3</TotalCount>
</DescribeDiskMonitorDataResponse>

```

JSON format

```

{
  "MonitorData": {
    "DiskMonitorData": [
      {
        "BPSRead": 0,
        "BPSTotal": 0,
        "BPSWrite": 0,
        "DiskId": "d-23b3p4r8b",
        "IOPSRead": 0,
        "IOPSTotal": 0,
        "IOPSWrite": 0,
        "TimeStamp": "2014-07-23T12:07:00Z"
      },
      {
        "BPSRead": 0,
        "BPSTotal": 204,
        "BPSWrite": 204,
        "DiskId": "d-23b3p4r8b",
        "IOPSRead": 0,
        "IOPSTotal": 0,
        "IOPSWrite": 0,
        "TimeStamp": "2014-07-23T12:08:00Z"
      },
      {
        "BPSRead": 0,
        "BPSTotal": 819,
        "BPSWrite": 819,
        "DiskId": "d-23b3p4r8b",
        "IOPSRead": 0,
        "IOPSTotal": 0,
        "IOPSWrite": 0,
        "TimeStamp": "2014-07-23T12:09:00Z"
      }
    ]
  },
  "RequestId": "A48A0A77-34F5-4C33-9066-9E8D2DA0D8E2",
  "TotalCount": 3
}

```

Error codes

The following error codes are specific to this interface. For more error codes, visit the [API error center](#).

Error code	Error information	HTTP status code	Description
InvalidEndTime. Malformed	The specified parameter “SignatureMethod” is not valid.	400	The specified EndTime is invalid.

Error code	Error information	HTTP status code	Description
InvalidParameter. TooManyDataQueried	Too many data queried.	400	At most 400 data can be returned at a time, the specified (EndTime-StartTime)/Period needs to be less than equal 400.
InvalidPeriod. ValueNotSupported	The specified parameter "SignatureMethod" is not valid.	400	The specified Period is not invalid.
InvalidStartTime. TooEarly	The specified parameter "StartTime" is too early.	400	The specified StartTime is too early.
InvalidStartTime. Malformed	The specified parameter "SignatureMethod" is not valid.	400	The specified StartTime is not legal.
InvalidDiskId. NotFound	The DiskId provided does not exist.	404	The specified DiskId does not exist.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	During system streaming, please try again later.

8.3 DescribeInstancesFullStatus

Describes the full status information of the specified instance. The full status information includes the instance status and the instance event status, while the instance status is the lifecycle status of the instance and the instance event is the health status of the maintenance event. For more details, see instance lifecycle, and instance system events.

Description

After you call the interface, information including the status of the scheduled events (Scheduled) and the status of the specified instance is returned.

If a period is specified, all the events in the period are queried.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeInstancesFullStatus
RegionId	String	Yes	ID of the region where the instance belongs. For more information, see Regions and zones, or call DescribeRegions to obtain the latest region list.
InstanceId.N	String	No	Instance ID. Value range of N: [1, 100]. For example, InstanceId. 1="i-instance1", 2="i-instance2".....
EventId.N	String	No	Event ID. Value range of N: [1, 100]. For example, EventId. 1="e-xhskHun1256xxxx", EventId. 2="e-xhskHun1257xxxx".....
Status	String	No	Lifecycle status of the instance. Optional values: - Starting - Running - Stopped
HealthStatus	String	No	Health status of the instance. Optional values: - OK: The instance performance is normal. - Impaired: The instance performance is damaged. - Warning: The performance of instance may be degraded because of maintenance or technical issues. - Maintaining: The instance is in maintenance. - Initializing: The instance is in initialization. - InsufficientData: The event details cannot be determined because of insufficient data. - NotApplicable: Not applicable.
InstanceEventType.N	String	No	One or more instance event types. Value range of N: [1, 30], the events must be displayed in the similar format of InstanceEventType.1="Reboot", InstanceEventType.2="SystemFailure.Reboot"... Optional values: SystemMaintenance.Reboot: The instance restarts because of maintenance. SystemFailure.Reboot: The instance restarts due to a system failure. InstanceFailure.Reboot: The instance restarts due to instance failure. Instanceeventtype. 1="Reboot",

Name	Type	Required	Description
			InstanceEventType. 2="SystemFailure. Reboot"..... Scope of value: - Systemmaintenance. Reboot: reboot due to system maintenance instance - Systemfailure. Reboot: restart due to system error instance - Maid. Reboot: instance restart due to instance error
EventType	String	No	Instance event type. EventType is effective only when the InstanceEventType.N is not specified. Optional values: - SystemMaintenance.Reboot - SystemFailure.Reboot - InstanceFailure.Reboot
NotBefore.Start	String	No	Queries the start time of the scheduled event execution time. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
NotBefore.End	String	No	Queries the end time of the scheduled event execution time. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
EventPublishTime.Start	String	No	Queries the start time of the event release time. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
EventPublishTime.End	String	No	Queries the end time of the event release time. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
PageNumber	Integer	No	Page number of the query result. The value must be a positive integer. Default value: 1.
PageSize	Integer	No	Page size of the query result. Value range: [1, 100] Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of the status of the instance.
Pagenumber	Integer	Page number of the status list of the instance.
Pagesize	Integer	Size of each page.
Instancefullstatusset	Array of InstanceFullStatusType	Array of full instance status.

InstanceFullStatusType

Name	Type	Description
InstanceId	String	Instance ID.
Scheduledsystemeventset	Array of ScheduledSystemEventType	Array of scheduled events.
Status.Code	Integer	Code of the instance lifecycle status.
Status.Name	String	Name of the instance lifecycle status.
Healthstatus.Code	Integer	Code of the health status.
Healthstatus.Name	String	Name of the health status.

ScheduledSystemEventType

Name	Type	Description
EventId	String	Instance event ID.
EventCycleStatus.Code	Integer	Code of event status.
EventCycleStatus.Name	String	Name of event status.
EventType.Code	Integer	Code of event type.
EventType.Name	String	Code of event type.

Name	Type	Description
EventpublishTime	String	Event release time. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
NotBefore	String	Scheduled time of event execution. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeInstancesFullStatus
&RegionId=cn-hangzhou
&<Common Request Parameters>
```

Success response example

XML format

```
<DescribeInstancesFullStatusResponse>
  <? xml version="1.0" encoding="UTF-8" ? >
  <InstanceFullStatusSet>
    <InstanceFullStatusType>
      <InstanceId>i-instance1</InstanceId>
      <Status>
        <Code>1</Code>
        <Name>Running</Name>
      </Status>
      <HealthStatus>
        <Code>0</Code>
        Group1
      </HealthStatus>
      <ScheduledSystemEventSet>
        <ScheduledSystemEventType>
          <EventId>e-event1</EventId>
          <EventCycleStatus>
            <Code>24</Code>
            <Name>Scheduled</Name>
          </EventCycleStatus>
          <EventType>
            <Code>1</Code>
            <Name>SystemMaintenance.Reboot</Name>
          </EventType>
          <EventPublishTime>2017-11-30T06:32:31Z</EventPubli
shTime>
          <NotBefore>2017-12-01T06:32:31Z</NotBefore>
        </ScheduledSystemEventType>
        <ScheduledSystemEventType>
          <EventId>e-event2</EventId>
          <EventCycleStatus>
            <Code>24</Code>
            <Name>Scheduled</Name>
          </EventCycleStatus>
          <EventType>
```

```

        <Code>34</Code>
        <Name>InstanceExpiration.Stop</Name>
    </EventType>
    <EventPublishTime>2017-11-30T00:00:00Z</EventPubli
shTime>
        <NotBefore>2017-12-07T00:00:00Z</NotBefore>
    </ScheduledSystemEventType>
</ScheduledSystemEventSet>
</InstanceFullStatusType>
<InstanceFullStatusType>
    <InstanceId>i-instance2</InstanceId>
    <Status>
        <Code>1</Code>
        <Name>Running</Name>
    </Status>
    <HealthStatus>
        <Code>64</Code>
        <Name>Warning</Name>
    </HealthStatus>
    <ScheduledSystemEventSet>
        <ScheduledSystemEventType>
            <EventId>e-event3</EventId>
            <EventCycleStatus>
                <Code>24</Code>
                <Name>Scheduled</Name>
            </EventCycleStatus>
            <EventType>
                <Code>65</Code>
                <Name>SystemFailure.Reboot</Name>
            </EventType>
            <EventPublishTime>2017-11-30T06:32:31Z</EventPubli
shTime>
        <NotBefore>2017-12-01T06:32:31Z</NotBefore>
    </ScheduledSystemEventType>
</ScheduledSystemEventSet>
</InstanceFullStatusSet>
<PageSize>10</PageSize>
<PageNumber>1</PageNumber>
<TotalCount>2</TotalCount>
<RequestId>AAC49D3E-ED6F-4F00-XXXX-377C551B1DD4</RequestId>
</DescribeInstancesFullStatusResponse>

```

JSON format

```

{
  "InstanceFullStatusSet": {
    "InstanceFullStatusType": [
      {
        "InstanceId": "i-instance1",
        "Status": {
          "Code": 1,
          "Name": "Running"
        },
        "HealthStatus": {
          "Code": 0,
          "Name": "Ok"
        },
        "ScheduledSystemEventSet": {
          "ScheduledSystemEventType": [
            {

```

```

        "EventId": "e-event1",
        "EventCycleStatus": {
            "Code": 24,
            "Name": "Scheduled"
        },
        "EventType": {
            "Code": 1,
            "Name": "SystemMaintenance.Reboot"
        },
        "EventPublishTime": "2017-11-30T06:32:31Z",
        "NotBefore": "2017-12-01T06:32:31Z"
    },
    {
        "EventId": "e-event2",
        "EventCycleStatus": {
            "Code": 24,
            "Name": "Scheduled"
        },
        "EventType": {
            "Code": 34,
            "Name": "InstanceExpiration.Stop"
        },
        "EventPublishTime": "2017-11-30T00:00:00Z",
        "NotBefore": "2017-12-07T00:00:00Z"
    }
]
},
{
    "InstanceId": "i-instance2",
    "Status": {
        "Code": 1,
        "Name": "Running"
    },
    "HealthStatus": {
        "Code": 64,
        "Name": "Warning"
    },
    "ScheduledSystemEventSet": {
        "ScheduledSystemEventType": [
            {
                "EventId": "e-event3",
                "EventCycleStatus": {
                    "Code": 24,
                    "Name": "Scheduled"
                },
                "EventType": {
                    "Code": 65,
                    "Name": "SystemFailure.Reboot"
                },
                "EventPublishTime": "2017-11-30T06:32:31Z",
                "NotBefore": "2017-12-01T06:32:31Z"
            }
        ]
    }
}
],
"PageSize": 10,
"PageNumber": 1,
"TotalCount": 2,
"RequestId": "AAC49D3E-ED6F-4F00-XXXX-377C551B1DD4"

```

```
}
```

Error response example

XML format

```
<Error>
  <RequestId>C38E0D94-C18B-44F3-8C05-6E35BE334088</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>InstanceIdLimitExceeded</Code>
  <Message>The amount of InstanceId specified exceeds limit 100.</
Message>
</Error>
```

JSON format

```
{
  "RequestId": "1A8B4B27-8B2D-XXXX-XXXX-0F64DBE4C213",
  "HostId": "ecs.aliyuncs.com"
  "Code": "InstanceIdLimitExceeded"
  "Message": "The amount of InstanceId specified exceeds limit 100."
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
InvalidParameter	The Parameter provided is not valid.	403	The specified parameter is invalid.
EventIdLimitExceeded	The amount of EventId specified exceeds limit 100.	403	The number of the specified <code>EventId</code> cannot be greater than 100.
InstanceIdLimitExceeded	The amount of InstanceId specified exceeds limit 100.	403	The number of the specified <code>InstanceId</code> cannot be greater than 100.
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	403	You must specify the required parameter.
InternalError	The request processing has failed due to some unknown error,exception or failure.	500	Internal error, please try again later.

8.4 DescribeInstanceHistoryEvents

Describes the history events of a specified instance. You can query the system events history within the last week.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeInstanceHistoryEvents.
RegionId	String	Yes	ID of the region where the instance is located. For more information, call DescribeRegions to obtain the latest region list.
InstanceId	String	No	Instance ID. If you do not specify an instance ID, you will obtain event information for all instances in the specified region.
EventId.N	String	No	One or more event ID. Value range of N: [1, 100], the IDs must be displayed in the similar format of EventId. 1="e-xhskHun1256xxxx", EventId. 2="e-xhskHun1257xxxx" ...
InstanceEventCycleStatus.N	String	No	Lifecycle status of one or more events. Value range of N: [1, 100], the status must be displayed in the similar format of InstanceEventCycleStatus

Name	Type	Required	Description
			. 1="Scheduled", InstanceEventCycleStatus . 2="Canceled"... Optional values: • Scheduled: The event is waiting for processing. • Avoided: You have fixed the event before it is complete. • Executing: The event is in processing. • Executed: Event progress is complete. • Canceled: The event is canceled. • Failed: Event progress failed.
EventCycleStatus	String	No	Lifecycle status of an event. EventCycleStatus is effective only when the InstanceEventCycleStatus .N is not specified. Optional values: • Scheduled • Avoided • Executing • Executed • Canceled • Failed
InstanceEventType.N	String	No	One or more instance event types. Value range of N: [1, 30],

Name	Type	Required	Description
			the events must be displayed in the similar format of InstanceEventType . 1="Reboot", InstanceEventType . 2="SystemFailure.Reboot"... Optional values: • SystemMaintenance.Reboot : The instance restarts because of maintenance. • SystemFailure.Reboot: The instance restarts due to a system failure. • InstanceFailure.Reboot: The instance restarts due to instance failure.
EventType	String	No	Instance event type. EventType is effective only when the InstanceEventType.N is not specified. Optional values: • SystemMaintenance.Reboot • SystemFailure.Reboot • InstanceFailure.Reboot
NotBefore.Start	String	No	Queries the start time of the scheduled event execution

Name	Type	Required	Description
			time. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.
NotBefore.End	String	No	Queries the end time of the scheduled event execution time. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.
EventPublishTime.Start	String	No	Queries the start time of the event release time. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.
EventPublishTime.End	String	No	The end time of the query event release time. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.
PageNumber	Integer	No	Page number of the query result. The value must be a positive integer. Default value: 1.
PageSize	Integer	No	Page size of the query result. Value range: [1, 100]. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of the status of the instance.
PageNumber	Integer	Page number of the instance list.
PageSize	Integer	Number of entries per page set during input.
InstanceSystemEventSet	Array of InstanceSystemEventType	Array of the history events of the instance.

InstanceSystemEventType

Name	Type	Description
InstanceId	String	Instance ID.
EventId	String	Event ID.
EventType.Code	Integer	Event type code.
EventType.Name	String	Event type name.
EventCycleStatus.Code	Integer	Event status code.
EventCycleStatus.Name	String	Event status name.
EventPublishTime	String	Event release time. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.
NotBefore	String	Scheduled time of event execution. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.
EventFinishTime	String	Event execution time. The time format follows the ISO8601 standard, and the UTC time is used. The format is YYYY-MM-DDTHH:mm:ssZ.

Examples

Request examples

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceHistoryEvents
&RegionId=cn-hangzhou
&InstanceId=i-2ze3tphuqvc93cixxxx3
&<Common Request Parameters>
```

Success response example

XML format

```
<DescribeInstanceHistoryEventsResponse>
  <InstanceSystemEventSet>
    <InstanceSystemEventType>
      <InstanceId>i-2ze3tphuqvc93cixxxx3</InstanceId>
      <EventId>e-2ze9yxxxxwtqcvai68r1</EventId>
      <EventType>
        <Code>1</Code>
        <Name>SystemMaintenance.Reboot</Name>
      </EventType>
      <EventCycleStatus>
        <Code>0</Code>
        <Name>Executed</Name>
      </EventCycleStatus>
      <EventPublishTime>2017-11-30T06:32:31Z</EventPublishTime>
      <NotBefore>2017-12-01T06:32:31Z</NotBefore>
      <EventFinishTime>2017-12-01T06:35:31Z</EventFinishTime>
    </InstanceSystemEventType>
    <InstanceSystemEventType>
      <InstanceId>i-2ze3tphuqvc93cixxxx3</InstanceId>
      <EventId>e-2ze9yxxxxwtqcvai68r3</EventId>
      <EventType>
        <Code>34</Code>
        <Name>InstanceExpiration.Stop</Name>
      </EventType>
      <EventCycleStatus>
        <Code>8</Code>
        <Name>Avoided</Name>
      </EventCycleStatus>
      <EventPublishTime>2017-11-29T06:32:31Z</EventPublishTime>
      <NotBefore>2017-12-06T00:00:00Z</NotBefore>
      <EventFinishTime>2017-12-05T12:35:31Z</EventFinishTime>
    </InstanceSystemEventType>
  </InstanceSystemEventSet>
  <PageSize>10</PageSize>
  <PageNumber>1</PageNumber>
  <TotalCount>2</TotalCount>
  <RequestId>02EA76D3-5A2A-44EB-XXXX-8901881D8707</RequestId>
</DescribeInstanceHistoryEventsResponse>
```

JSON format

```
{
  "InstanceSystemEventSet": {
    "InstanceSystemEventType": [
      {
        "InstanceId": "i-2ze3tphuqvc93cixxxx3",
```

```

    "EventId": "e-2ze9yxxxxwtqcvai68r1",
    "EventType": {
      "Code": 1,
      "Name": "SystemMaintenance.Reboot"
    },
    "EventCycleStatus": {
      "Code": 0,
      "Name": "Executed"
    },
    "EventPublishTime": "2017-11-30T06:32:31Z",
    "NotBefore": "2017-12-01T06:32:31Z",
    "EventFinishTime": "2017-12-01T06:35:31Z"
  },
  {
    "InstanceId": "i-2ze3tphuqvc93cixxxx3",
    "EventId": "e-2ze9yxxxxwtqcvai68r3",
    "EventType": {
      "Code": 34,
      "Name": "InstanceExpiration.Stop"
    },
    "EventCycleStatus": {
      "Code": 8,
      "Name": "Avoided"
    },
    "EventPublishTime": "2017-11-29T06:32:31Z",
    "NotBefore": "2017-12-06T00:00:00Z",
    "EventFinishTime": "2017-12-05T12:35:31Z"
  }
]
},
"PageSize": 10,
"PageNumber": 1,
"TotalCount": 2,
"RequestId": "02EA76D3-5A2A-44EB-XXXX-8901881D8707"
}

```

Error response example

XML format

```

<Error>
  <RequestId>C38E0D94-C18B-44F3-8C05-6E35BE334087</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code> invalidparameter</code>
  <Message>The Parameter "EventCycleStatus" provided is not valid.</
Message>
</Error>

```

JSON format

```

{
  "RequestId": "1A8B4B27-8B2D-XXXX-XXXX-0F64DBE4C212",
  "HostId": "ecs.aliyuncs.com"
  "Code": "InvalidParameter"
  "Message": "The Parameter "EventCycleStatus" provided is not valid
."

```

```
}
```

Error codes

The following error codes are restricted to this interface. For more error codes, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
InvalidParameter	The Parameter provided is not valid.	403	The specified parameter is invalid.
EventIdLimitExceeded	The amount of EventId specified exceeds limit 100.	403	The number of EventId cannot exceed 100.
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	403	You must specify the required parameter.
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	Internal error. Please try again later.

8.5 DescribeInstanceMonitorData

Queries all the ECS-related monitoring data. The monitoring data includes the CPU usage of the ECS, data traffic received by the ECS, data traffic sent by the ECS, ECS network traffic, and ECS average bandwidth. You can only query the monitoring data of an ECS that is not in the **Stopped** (Stopped) status.

Description

When you call this interface, consider the following:

- You can only query up to 400 entries of monitoring data each time. If the specified (EndTime - StartTime)/Period > 400, an error is returned.
- You can only query the monitoring data that is 30 days later than the current time. If the specified StartTime is earlier than 30 days, an error is returned.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeInstanceMonitorData.
InstanceId	String	Yes	ID of the target instance.
StartTime	String	Yes	The start time of the monitoring data, which is represented according to ISO8601 , and UTC is required. Valid format: YYYY-MM-DDThh:mm:ssZ. If the specified ss is not 00, it is auto set to start of the next minute.
EndTime	String	Yes	The end time of the retrieved data, which is represented according to ISO8601, and UTC is required. Valid format: YYYY-MM-DDThh:mm:ssZ. If the specified ss is not 00, it is auto set to start of the next minute.
Period	Integer	No	The interval of the retrieved monitoring data, unit: second. Optional values: • 60 • 600 • 3600 Default value: 60.

Response parameters

Name	Type	Description
MonitorData	InstanceMonitorDataType	A collection composed of instance monitoring data InstanceMonitorDataType.

Examples**Request example**

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceMonitorData
&InstanceId=i-instance1
&StartTime=2014-10-29T23:00:00Z
&EndTime=2014-10-30T08:00:00Z
&<Common Request Parameters>
```

Response example**XML format**

```
<DescribeInstanceMonitorDataResponse>
  <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
  <MonitorData>
    <InstanceMonitorData>
      <InstanceId>Bc0102-23xYm09</InstanceId>
      <CPU>2</CPU>
      <IntranetRX>122</IntranetRX>
      <IntranetTX>343</IntranetTX>
      <IntranetFlow>675</IntranetFlow>
      <IntranetBandwidth>10</IntranetBandwidth>
      <InternetRX>122</InternetRX>
      <InternetTX>343</InternetTX>
      <InternetFlow>675</InternetFlow>
      <InternetBandwidth>10</InternetBandwidth>
      <IOPSRead>1000</IOPSRead>
      <IOPSWrite>200</IOPSWrite>
      <BPSRead>1000</BPSRead>
      <BPSWrite>200</BPSWrite>
      <TimeStamp>2010-01-21T09:50:23Z</TimeStamp>
    </InstanceMonitorData>
  </MonitorData>
</DescribeInstanceMonitorDataResponse>
```

JSON format

```
{
  "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
  "MonitorData": {
    "InstanceMonitorData": [{
      "InstanceId": "Bc0102-23xYm09",
      "CPU": 0,
      "IntranetRX": 122,
      "IntranetTX": 343,
      "IntranetFlow": 675,
      "IntranetBandwidth": 10,
```

```

        "InternetRX": 122,
        "InternetTX": 343,
        "InternetFlow": 675,
        "InternetBandwidth": 10,
        "IOPSRead": 1000,
        "IOPSWrite": 200,
        "BPSRead": 1000,
        "BPSWrite": 200,
        "TimeStamp": "2010-01-21T09:50:23Z"
    }
}

```

Error codes

The following error codes are restricted to this interface. For more error codes, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.
InvalidStartTime.Malformed	The specified parameter "StartTime" is not valid.	400	The specified format of the StartTime format is incorrect.
InvalidEndTime.Malformed	The specified parameter "EndTime" is not valid.	400	The specified EndTime is invalid.
InvalidPeriod.ValueNotSupported	The specified parameter "Period" is not valid.	400	The specified Period is invalid.
InvalidStartTime.TooEarly	The specified parameter "StartTime" is too early.	400	The indicated StartTime must be 30 days later than the current time.
InvalidParameter.TooManyDataQueried	Too many data queried.	400	You can only query up to 400 entries of monitoring data each time.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	Your request is denied due to request throttling. Please try again later.

8.6 GetInstanceScreenshot

Obtains screenshot information of an instance for troubleshooting and diagnosis.

Description

We return you the instance screenshot in JPG format, encoded in Base64. However, you can decode the screenshot yourself. We recommend that you use this operation for troubleshooting and diagnosis, and consider the following:

- The instance must be in the **Running** (Running) status.
- *Phased-out instance types* cannot obtain screenshot information.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: GetInstanceScreenshot.
RegionId	String	Yes	ID of the region where the ECS instance is located. For more information, use DescribeRegions to obtain the latest region list.
InstanceId	String	Yes	Instance ID.
Wakeup	Boolean	No	Whether to wake up instances in sleep mode or not. Default value: false.

Response parameters

Name	Type	Description
InstanceId	String	Instance ID.
screenshot	String	The JPG format instance screenshot encoded in Base64.

Examples

Request example

```
http://ecs-cn-hangzhou.example.com/?Action=GetInstanceScreenshot
&RegionId=cn-shenzhen
&InstanceId=i-j5e42sbbthlokka11eci
&Wakeup=False
&<Common Request Parameters>
```

Success response example

XML format

```
<GetInstanceScreenshotResponse>
  <RequestId>22A1933F-AD02-4560-A6A7-53CF2231D942</RequestId>
  <InstanceId>i-j5e42sbbthlokka11ech</InstanceId>
  <Screenshot>iVB0Rw0KGgoA... AAABJRU5ErkJggg==</Screenshot>
</GetInstanceScreenshotResponse>
```

JSON format

```
{
  "RequestId": "22A1933F-AD02-4560-A6A7-53CF2231D942",
  "InstanceId": "i-j5e42sbbthlokka11ech",
  "Screenshot": "iVB0Rw0KGgoA... AAABJRU5ErkJggg=="
}
```

Error response example**XML format**

```
<Error>
  <RequestId>C38E0D94-C18B-44F3-8C05-6E35BE334088</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>NotSupported</Code>
  <Message>The operation is not supported for "i-j5e42sbbth
lokkaXXXXX".</Message>
</Error>
```

JSON format

```
{
  "RequestId": "C38E0D94-C18B-44F3-8C05-6E35BE334088",
  "HostId": "ecs.aliyuncs.com",
  "Code": "NotSupported",
  "Message": "The operation is not supported for \"i-j5e42sbbth
lokkaXXXXX\"."
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
MissingParameter	The input parameter "instanceId" that is mandatory for processing this request is not supplied.	400	InstanceId is required.
InvalidParameter	The "instanceId" provided is not valid.	404	The specified InstanceId does not exist.

Error code	Error message	HTTP status code	Description
IncorrectInstanceStatus	The instance status "{status}" is not applicable	405	The instance must be in the Running (Running) status.
NotSupported	The operation is not supported for "{instanceId}"	405	<i>Phased-out instance types</i> cannot obtain screenshot information.
Throttling	Request was denied due to request throttling.	400	You have made too many frequent requests in a short time.

8.7 GetInstanceConsoleOutput

Obtains the console output of an instance. The returned command line output is encoded in Base64 format.

Description

ECS instances are virtualized cloud-based services that cannot be connected to display devices or make mobile snapshots. However, the instance console output for the last start, restart, or shutdown of the instance is cached. You can call the `GetInstanceConsoleOutput` to monitor and analyze the instance exceptions.

Currently, the *phased-out instance types* cannot obtain the console output.

Moreover, Windows instances cannot obtain console output as well.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>GetInstanceConsoleOutput</code> .
RegionId	String	Yes	ID of the region where the ECS instance is located. For more information, use <i>DescribeRegions</i> to obtain the latest region list.
InstanceId	String	Yes	Instance ID.

Response parameters

Name	Type	Description
InstanceId	String	ID of the instance.
ConsoleOutput	String	The instance console output of the instance, in Base64 encoding.
LastUpdateTime	String	The time the instance was last started, restarted, or shut down. The value of this parameter uses the offset UTC +0 and is expressed according to the ISO8601 standard. Format: YYYY-MM-DDTHH:mm:ssZ.

Examples**Request example**

```
http://ecs-cn-hangzhou.aliyuncs.com/?Action=GetInstanceConsoleOutput
&RegionId=cn-shenzhen-finance-1
&InstanceId=i-j5e42sbbthlokka11eci
&<Common Request Parameters>
```

Success response example**XML format**

```
<GetInstanceConsoleOutputResponse>
  <RequestId>22A1933F-AD02-4560-A6A7-53CF2231D942</RequestId>
  <InstanceId>i-j5e42sbbthlokka11ech</InstanceId>
  <LastUpdateTime>2018-03-22 10:04:57</LastUpdateTime>
  <ConsoleOutput>V2VsY29tZSB0byBDZW50T1MgCgpDaGVja2luZyBmaWxl3lzdG
VtcwpDaGVja2luZyBhbGwgZmlsZSBzeXN0ZW1zLgpbL3NiaW4vZnNjay5leHQ0ICgxKSA
tLSAvXSBmc2NrLmV4dDQgLWEgL2Rldi92ZGExIAovZGV2L3ZkYTE6IGNsZWFuLCAzMjAxNi
8yNjIjNDQwIGZpbGVzLCA0NDc5NzQvMTA0ODU1MDQgYmxvY2tzCgpFbnRlcm1uZyBub24t
aw50ZXJhY3RpdmUgc3RhcncR1cApDYWxsaw5nIHROZSBzeXN0ZW0gYWN0aXZpdHkgZGF0YS
Bjb2xsZWNOB3IgKHNhZGMpLi4uIAoKQnJpbmdpbmcgdXAgaw50ZXJmYWNlIGV0aDA6ICAK
RGV0ZXJtaW5pbmcgSVAgaw5mb3JtYXRpb24gZm9yIGV0aDAuLi4gZG9uZS4KcmFsaXl1bi
1zZXJ2aWNLIHNOYXJ0L3J1bm5pbmcsIHByb2Nlc3MgMTczMwpmaW5pc2hlZAOKQ2VudE9T
IHJlbGVhc2UgNi44ICgaw5hbCkKS2VybmVsIDIuNi4zMj02OTYuMy4yLmVsNi5pNjg2IG
9uIGFuIGk20DYKCmlaMnplZDk2ZTQ2MmF5cjBxemw2czhaIGxvZ2luOg==</ConsoleOut
put>
</GetInstanceConsoleOutputResponse>
```

JSON format

```
{
  "RequestId": "22A1933F-AD02-4560-A6A7-53CF2231D942",
  "InstanceId": "i-j5e42sbbthlokka11ech",
  "LastUpdateTime": "2018-03-22 10:04:57",
  "ConsoleOutput": "V2VsY29tZSB0byBDZW50T1MgCgpDaGVja2luZyBm
awxl3lzdGVtcwpDaGVja2luZyBhbGwgZmlsZSBzeXN0ZW1zLgpbL3NiaW4vZnNjay5leH
Q0ICgxKSA tLSAvXSBmc2NrLmV4dDQgLWEgL2Rldi92ZGExIAovZGV2L3ZkYTE6IGNsZWFu
LCAzMjAxNi8yNjIjNDQwIGZpbGVzLCA0NDc5NzQvMTA0ODU1MDQgYmxvY2tzCgpFbnRlcm
luZyBub24taW50ZXJhY3RpdmUgc3RhcncR1cApDYWxsaw5nIHROZSBzeXN0ZW0gYWN0aXZp
dHkgZGF0YSBjb2xsZWNOB3IgKHNhZGMpLi4uIAoKQnJpbmdpbmcgdXAgaw50ZXJmYWNlIG
```

```
V0aDA6ICAKRGV0ZXJtaW5pbmcgSVAgaw5mb3JtYXRpb24gZm9yIGV0aDAuLi4gZG9uZS4K
CmFsaXl1bi1zZXJ2aWNlIHNOYXJ0L3J1bm5pbmcsIHByb2Nlc3MgMTczMwpmaW5pc2hlZA
oKQ2VudE9TIHJlbGVhc2UgNi44IChGaW5hbCkKS2VybmVsIDIuNi4zMj0TYuMy4yLmVs
Ni5pNjg2IG9uIGFuIGk2ODYKCmlaMnplZDk2ZTQ2MmF5cjBxemw2czhaIGxvZ2lu0g=="
}
```

Error response example

XML format

```
<Error>
  <RequestId>C38E0D94-C18B-44F3-8C05-6E35BE334088</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>NotSupported</Code>
  <Message>The operation is not supported for "i-j5e42sbbth
lokkaXXXXX".</Message>
</Error>
```

JSON format

```
{
  "RequestId": "C38E0D94-C18B-44F3-8C05-6E35BE334088",
  "HostId": "ecs.aliyuncs.com",
  "Code": "NotSupported",
  "Message": "The operation is not supported for "i-j5e42sbbth
lokkaXXXXX"."
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
MissingParameter	The input parameter "instanceId" that is mandatory for processing this request is not supplied.	400	InstanceId is required.
InvalidParameter	The "instanceId" provided is not valid.	404	The specified InstanceId does not exist.
IncorrectInstanceStatus	The instance status "{status}" is not applicable	405	The specified instance has been released or stopped.
NotSupported	The operation is not supported for "{instanceId}"	405	<i>Phased-out instance types</i> cannot obtain console output.

9 Cloud assistants

9.1 CreateCommand

Creates a command. You can perform the command by using cloud assistant.

Description

- You can only create commands of the following types:
 - Bat scripts for Windows instances (`RunBatScript`).
 - PowerShell scripts for Windows instances (`RunPowerShellScript`).
 - Shell scripts for Linux instances (`RunShellScript`).
- You can specify the `Timeout` parameter to set the maximum timeout value for command invocation on ECS instances. When the command invocation times out, the *client* forces the command process to stop.
 - For one-time invocation, after an invocation timeout, the command invocation status ([InvokeRecordStatus](#)) for the specified ECS instance becomes `Failed`.
 - For periodical invocation:
 - The timeout value of periodical invocation is effective for every invocation record.
 - After one invocation operation times out, the status for the invocation record ([InvokeRecordStatus](#)) becomes `Failed`.
 - The timeout status of last invocation does not affect the next invocation.
- You can specify the `WorkingDir` parameter to specify the invocation path of the command. For Linux instances, commands are performed in the `/root` directory by default. For Windows instances, commands are performed in the directory where the cloud assistant client process is located, such as `C:\ProgramData\aliyun\assist\$(version)`.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>CreateCommand</code> .
RegionId	String	Yes	The region ID. For more information, call DescribeRegions to obtain the latest region list.
Name	String	Yes	Command name. Supporting all the character encoding sets.

Name	Type	Required	Description
Type	String	Yes	Command type. RunBatScript: Creates a Bat script for Windows instances. RunPowerShellScript: Creates a PowerShell script for Windows instances. RunShellScript: Creates a Shell script for Linux instances. Optional values: - RunBatScript: Creates a Bat script for Windows instances. - RunPowerShellScript: Creates a PowerShell script for Windows instances. - RunShellScript: Creates a Shell script for Linux instances.
Description	String	No	Command description. Supporting all the character encoding sets.
CommandContent	String	No	The Base64-encoded content of the command. You must pass in this parameter at the same time when you pass in the Type request parameter. The parameter value must be Base64-encoded for transmission and the script content size before the Base64 encoding cannot exceed 16 KB.
WorkingDir	String	No	The directory where your created command runs on the ECS instances. Default value: - For Linux instances, commands are performed in the <code>/root</code> directory. - For Windows instances, commands are performed in the directory where the cloud assistant client process is located, such as <code>C:\ProgramData\aliyun\assist\\$(version)</code>.
TimeOut	Integer	No	The invocation timeout value of the command. The unit is seconds. When the command fails to run for some reason, the invocation may time out, after which the cloud assistant client forces the command process to stop by canceling the command PID. The parameter value must be greater than or equal to 60. If the value is smaller than 60, the timeout value is 60 seconds by default. Default value: 3600.

Response parameters

Name	Type	Description
CommandId	String	Command ID.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateCommand
&RegionId=cn-hangzhou
&Name=Test
&Type=RunShellScript
&CommandContent=ZWNobyAxMjM=
&<Common Request Parameters>
```

Success response example

XML format

```
<CreateCommandResponse>
  <RequestId>540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx</RequestId>
  <CommandId>c-e996287206324975b5fbe1dxxxxxxxxx</CommandId>
</CreateCommandResponse>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx",
  "CommandId": "c-e996287206324975b5fbe1dxxxxxxxxx"
}
```

Error response example

XML format

```
<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>MissingParameter.Name</Code>
  <Message>The input parameter "Name" that is mandatory for
processing this request is not supplied.</Message>
</Error>
```

JSON format

```
"RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx",
"HostId": "ecs.aliyuncs.com"
"Code": "MissingParameter.Name"
```

"Message": "The input parameter "Name" that is mandatory for processing this request is not supplied."

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
Invalid.CommandContent	The specified CommandContent is not valid or exceed max	400	The specified CommandContent parameter is invalid. Or the CommandContent value exceeds 16 KB.
MissingParameter.Name	The input parameter "Name" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter Name.
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter RegionId. Or you cannot use the resources in the specified region.
MissingParameter.Type	The input parameter "Type" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter Type.
InvalidCmdType.NotFound	The specified command type does not exist	404	The specified Type parameter does not exist.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified RegionId does not exist.
InternalError.Dispatch	An internal error occurred when dispatch the request	500	Internal error. Please try again later.

9.2 InstallCloudAssistant

Installs the cloud assistant client on one or more instances. After you call

InstallCloudAssistant and **RebootInstance**, the cloud assistant client takes effect.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: InstallCloudAssistant.
RegionId	String	Yes	The ID of the region where the ECS instance is located. You can call DescribeRegions to view the latest region list.
InstanceIds	Array	Yes	The list of instance IDs. For example, if Python SDK is used, you can set the value to [InstanceId1, InstanceID2, InstanceID3...]. A single request supports up to 100 instances.

Response parameters

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=InstallCloudAssistant
&RegionId=cn-hangzhou
&InstanceIds=["i-bp11f7trr4hbi1xxxxxx", "i-bp1iudwa5b1tqaxxxxxx"]
&<Common Request Parameters>
```

Response examples

XML format

```
<DeleteInstanceResponse>
  <RequestId>928E2273-5715-46B9-A730-238DC996A533</RequestId>
</DeleteInstanceResponse>
```

JSON format

```
{
  "RequestId": "928E2273-5715-46B9-A730-238DC996A533"
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The error message returned when RegionId is required, or you cannot use resources in that region.
MissingParameter.InstanceIds	The input parameter "InstanceIds" that is mandatory for processing this request is not supplied.	400	The error message returned when InstanceIds is required.
InvalidInstance.NotFound	The specified instances do not exist.	404	The error message returned when the specified InstanceId does not exist.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The error message returned when the specified RegionId does not exist.

9.3 InvokeCommand

Performs a specified command on one or more ECS instances.

Description

When you call this interface, consider the following:

- The network type of the specified instances must be VPC.
- The target ECS instance must be in the **Running** (Running) status.
- The target ECS instance must have the [cloud assistant client](#) installed in advance.
- To perform a PowerShell command, make sure that the target Windows ECS instance has been configured with the PowerShell module.
- For one-time invocation (`Timed=False`), the command is performed only once.
- For periodical invocation (`Timed=True`), the first invocation task starts at the time specified in the `Frequency` parameter. Subsequent invocations follow the frequency specified in the `Frequency` parameter. The result of last invocation does not affect the next invocation.

- The scheduled time for periodical invocation is in UTC +08:00, and based on the system time of ECS instances. Make sure that the time on your ECS instances are consistent with your expectation.
- You can specify multiple ECS instances in the InstanceIds. When one of these instances does not comply with the invocation conditions, you can try again by specifying other instances.
- Command invocation may fail because of target instance status exception, network exception or cloud assistant client exception. No invocation information is generated for invocation failures.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: InvokeCommand.
RegionId	String	Yes	The region ID. For more information, call DescribeRegions to obtain the latest region list.
InstanceIds	Array	Yes	List of instances for command invocation. The parameter value is a formatted JSON array in the format of [InstanceId1, instanceId2, ...]. You can specify a maximum of 100 instance IDs separated by commas (,).
CommandId	String	Yes.	Command ID. You can call the DescribeCommands API to check all the available CommandId.
Timed	Boolean	No	Whether the command is periodically performed or not. Optional values: • True: Periodical invocation. • False: Non-periodical invocation. Default value: False
Frequency	String	No	The invocation period of a periodical task. When the Timed parameter value is True, the Frequency parameter is required. The parameter value observes the Cron expression. For more information, see Cron expressions .

Response parameters

Name	Type	Description
InvokeId	String	Command invocation ID.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=InvokeCommand
&RegionId=cn-hangzhou
&InstanceIds=i-bp185dy2o3o6nxxxxxxx
&CommandId=c-e996287206324975b5fbe1dxxxxxxx
&Timed=true
&Frequency=0 0-5 14 * * ?
&<Common Request Parameters>
```

Success response example

XML format

```
<InvokeCommandResponse>
  <RequestId>540CFF28-407A-40B5-B6A5-73Bxxxxxxx</RequestId>
  <InvokeId>t-1fad2a8876de47068cc734d5xxxxxxx</InvokeId>
</InvokeCommandResponse>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-73Bxxxxxxx",
  "InvokeId": "t-1fad2a8876de47068cc734d5xxxxxxx"
}
```

Error response example

XML format

```
<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>MissingParameter.CommandId</Code>
  <Message>The input parameter "CommandId" that is mandatory for
processing this request is not supplied.</Message>
</Error>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxx",
  "HostId": "ecs.aliyuncs.com"
  "Code": "MissingParameter.CommandId"
  "Message": "The input parameter "CommandId" that is mandatory for
processing this request is not supplied."
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
InvalidInstance.NoClient	The specified instances have no cloud assistant client installed.	400	The target ECS instance must have the cloud assistant client installed in advance. For more information, see Cloud assistant client .
InvalidInstance.NotVpc	The specified instances must be VPC instances.	400	The network type of the specified InstanceIds must be VPC.
InvalidInstanceStatus	The specified instance's status can not execute this operation	400	The specified instance must be in the Running status. Or the specified instance has abnormal network connection.
MissingParameter.CommandId	The input parameter "CommandId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter CommandId.
MissingParameter.InstanceIds	The input parameter "InstanceIds" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter InstanceIds.
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter RegionId. Or you cannot use the resources in the specified RegionId.
MissingParameter.Frequency	The frequency parameter must exist when create a timed Invocation.	400	When the Timed parameter value is True, the Frequency parameter is required.
InvalidCommandId.NotFound	The specified commandId does not exist.	404	The specified CommandId does not exist.

Error code	Error message	HTTP status code	Meaning
InvalidInstance.NotFound	The specified instances does not exist.	404	The specified <code>InstanceId</code> does not exist.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified <code>RegionId</code> does not exist.
InternalServerError.Dispatch	An internal error occurred when dispatching your request.	500	Internal error. Please try again later.

9.4 StopInvocation

Stops cloud assistant command processes that are in **Running** (`Running`) status on ECS instances. When you call this interface, consider the following:

Description

- After you stop a command process on one-time invocation, the invocation operations that have been started on instances proceed, and those that have not been started cease.
- After you stop a command process on periodical invocation, the invocation operations that have been started on instances proceed, but the invocation does not proceed to the next period.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>StopInvocation</code> .
RegionId	String	Yes	The region ID. For more information, call DescribeRegions to obtain the latest region list.
InvokeId	String	Yes	Invocation ID of a command process. You can call DescribeInvocations to obtain the latest <code>InvokeId</code> .
InstanceIds	Array	No	List of instances for stopping command invocation. The parameter value is a formatted JSON array in the format of <code>[InstanceId1, InstanceId2, ...]</code> . You can specify a maximum of 100 instance IDs separated by commas (,).

Response parameters

All are common response parameters. See [Common response parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=StopInvocation
&RegionId=cn-hangzhou
&InvokeId=t-1fad2a8876de47068cc734d57703aa76
&<Common Request Parameters>
```

Success response example

XML format

```
<StopInvocationResponse>
  <RequestId>540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx</RequestId>
</StopInvocationResponse>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx",
}
```

Error response example

XML format

```
<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>InvalidInstance.NoClient</Code>
  <Message>The specified instances have no cloud assistant client
installed.</Message>
</Error>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx",
  "HostId": "ecs.aliyuncs.com",
  "Code": "InvalidInstance.NoClient",
  "Message": "The specified instances have no cloud assistant client
installed."
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
InvalidInvokeId.NotFound	The specified ImageId does not exist.	400	The specified <code>InvokeId</code> does not exist.
MissingParameter.InstanceId	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter of InstanceIds.
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter of RegionId. Or you cannot use the resources in the specified region.
MissingParameter.InvokeId	The input parameter "InvokeId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter InvokeId.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified <code>RegionId</code> does not exist.
InternalError.Dispatch	An internal error occurred when dispatch the request	500	Internal error, please try later.

9.5 DeleteCommand

Deletes a created cloud assistant command. The log of the original invocation is retained after a command is deleted.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DeleteCommand.
RegionId	String	Yes	Regional ID. For more information, call DescribeRegions to obtain the latest region list.
CommandId	String	Yes	Command ID. You can query all the available CommandId by calling the DescribeCommands .

Response parameters

All are common response parameters. See [Common response parameters](#).

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DeleteCommand
&RegionId=cn-hangzhou
&InvokeId=c-f0902c0972984e31aaf2129fd48a9c6d
&<Common Request Parameters>
```

Success response example

XML format

```
<DeleteCommandResponse>
  <RequestId>540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx</RequestId>
</DeleteCommandResponse>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx",
}
```

Error response example

XML format

```
<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>InvalidInstance.NoClient</Code>
  <Message>The specified instances have no cloud assistant client
installed.</Message>
</Error>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx",
  "HostId": "ecs.aliyuncs.com"
  "Code": "InvalidInstance.NoClient"
  "Message": "The specified instances have no cloud assistant client
installed."
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Description
InvalidCmdId.NotFound	The specified ImageId does not exist.	404	The specified CommandId does not exist.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified RegionId does not exist.
Internalerror.Dispatch	An internal error occurred when dispatch the request	500	Internal error. Please try again later.

9.6 DescribeCloudAssistantStatus

Checks whether the cloud assistant client is installed or not on one or more instances.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: DescribeCloudAssistantStatus.
RegionId	String	Yes	The ID of the region where the ECS instance is located. You can call DescribeRegions to view the latest region list.
InstanceId.N	Array	Yes	The list of instance IDs. A single request supports up to 20 instances, therefore, the N can be set to [1, 20].

Response parameters

Name	Type	Description
InstanceCloudAssistantStatus	InstanceCloudAssistantStatus	A set of installation statuses of the cloud assistant in the instance.

InstanceCloudAssistantStatusSet

Name	Type	Description
InstanceId	String	A set of installation statuses of the cloud assistant in the instance.

Name	Type	Description
CloudAssitantStatus	Boolean	Indicates whether the cloud assistant is installed on the instance.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeCloudAssistantStatus
&RegionId=cn-hangzhou
&InstanceId.N="i-bp11f7trr4hbi1xxxxxx"
&InstanceId.N="i-bp1iudwa5b1tqaxxxxxx"
&<Common Request Parameters>
```

Response examples

XML format

```
<DescribeCloudAssistantStatusResponse>
  <InstanceCloudAssitantStatus>
    <InstanceCloudAssitantStatusSet>
      <InstanceId>i-bp11f7trr4hbi1xxxxxx</InstanceId>
      <CloudAssitantStatus>True</CloudAssitantStatus>
    </InstanceCloudAssitantStatusSet>
    <InstanceCloudAssitantStatusSet>
      <InstanceId>i-bp1iudwa5b1tqaxxxxxx</InstanceId>
      <CloudAssitantStatus>True</CloudAssitantStatus>
    </InstanceCloudAssitantStatusSet>
  </InstanceCloudAssitantStatus>
</DescribeCloudAssistantStatusResponse>
```

JSON format

```
{
  "InstanceCloudAssitantStatus": {
    "InstanceCloudAssitantStatusSet": [
      {
        "InstanceId": "i-bp11f7trr4hbi1xxxxxx",
        "CloudAssitantStatus": "True"
      },
      {
        "InstanceId": "i-bp1iudwa5b1tqaxxxxxx",
        "CloudAssitantStatus": "True"
      }
    ]
  }
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
MissingParameter.InstanceIds	The input parameter "InstanceIds" that is mandatory for processing this request is not supplied.	400	The error message returned when InstanceIds is required.
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The error message returned when RegionId is required, or you cannot use resources in that region.
InvalidInstance.NotFound	The specified instances do not exist.	404	The error message returned when the specified InstanceId does not exist.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The error message returned when the specified RegionId does not exist.

9.7 DescribeCommands

Queries the cloud assistant commands that you have created. If you only specify the `Action` and `RegionId` parameters, Alibaba Cloud ECS queries all your available commands (`CommandId`) by default.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeCommands.
RegionId	String	Yes	The region ID. You can call DescribeRegions to obtain the latest region list.
CommandId	String	No	Command ID.

Name	Type	Required	Description
Type	String	No	Command type. Optional values: - RunBatScript: The command process is a Bat script for Windows instances. - RunPowerShellScript: The command process is a PowerShell script for Windows instances. - RunShellScript: The command process is a Shell script for Linux instances.
Name	String	No	Command name , fuzzy search temporarily not supported.
Description	String	No	Command description, fuzzy search temporarily not supported.
PageNumber	Integer	No	Current page number. Start value: 1. Default value: 1.
PageSize	Integer	No	The number of rows per page for multi-page display. Maximum value: 50. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of commands.

Name	Type	Description
Pagenumber	Integer	Command list page number.
Pagesize	Integer	The number of rows per page.
Commands	Array	Type of command data set (CommandSetType).

CommandSetType

Name	Type	Description
Command	Array	Command type (CommandType).

CommandType

Name	Type	Description
CommandId	String	Command ID.
Name	String	Command name.
Description	String	Command description.
Type	String	Command type.
Commandcontent	String	Command content, transmitted in the Base64-encoded format .
WorkingDir	String	Invocation path.
TimeOut	Integer	Timeout.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeCommands
&RegionId=cn-hangzhou
&<Common Request Parameters>
```

Success response example

XML format

```
<DescribeCommandsResponse>
  <TotalCount>5</TotalCount>
  <Commands>
    <Command>
      <Name>Test</Name>
      <WorkingDir></WorkingDir>
```

```

        <CommandContent>ZWNobyAxMjM= </CommandContent>
        <Timeout>3600 </Timeout>
        <Type>RunShellScript </Type>
        <CommandId>c-05946950bc63441dab0a72b8xxxxxxx </
CommandId>
        <Description>test </Description>
    </Command>
    <Command>
        <Name>Test1 </Name>
        <WorkingDir> </WorkingDir>
        <CommandContent>Y2QgL3Jvb3Q= </CommandContent>
        <Timeout>3600 </Timeout>
        <Type>RunShellScript </Type>
        <CommandId>c-53253cb556d74cb7b7f7309fdxxxxxxx </
CommandId>
        <Description>test1 </Description>
    </Command>
    <Command>
        <Name>Test2 </Name>
        <WorkingDir> </WorkingDir>
        <CommandContent>eXVtIHVwZGF0ZQ== </CommandContent>
        <Timeout>3600 </Timeout>
        <Type>RunShellScript </Type>
        <CommandId>c-57881b01e5ec4403916f8685xxxxxxx </
CommandId>
        <Description>test2 </Description>
    </Command>
    <Command>
        <Name>Test3 </Name>
        <WorkingDir> </WorkingDir>
        <CommandContent>c2VydmJjZSBuZ2lueCByZWxvYWQ= </
CommandContent>
        <Timeout>3600 </Timeout>
        <Type>RunShellScript </Type>
        <CommandId>c-742eea007af14043b07c4978xxxxxxx </
CommandId>
        <Description>test3 </Description>
    </Command>
    <Command>
        <Name>Test4 </Name>
        <WorkingDir> </WorkingDir>
        <CommandContent>bHM= </CommandContent>
        <Timeout>120 </Timeout>
        <Type>RunShellScript </Type>
        <CommandId>c-cec3ded3bc434c22aabcfeaaxxxxxxxx </
CommandId>
        <Description>test4 </Description>
    </Command>
    <PageNumber>1 </PageNumber>
    <RequestId>36443468-4AE5-44DB-A6FE-A528xxxxxxx </RequestId>
    <PageSize>10 </PageSize>
</DescribeCommandsResponse>

```

JSON format

```

{
  "TotalCount": 5,
  "Commands": {
    "Command": [
      {
        "Name": "Test",

```

```

        "WorkingDir": "",
        "CommandContent": "ZWNobyAxMjM=",
        "Timeout": 3600,
        "Type": "RunShellScript",
        "CommandId": "c-05946950bc63441dab0a72b8xxxxxxxx",
        "Description": "test"
    },
    {
        "Name": "Test1",
        "WorkingDir": "",
        "CommandContent": "Y2QgL3Jvb3Q=",
        "Timeout": 3600,
        "Type": "RunShellScript",
        "CommandId": "c-53253cb556d74cb7b7f7309fxxxxxxxx",
        "Description": "test1"
    },
    {
        "Name": "Test2",
        "WorkingDir": "",
        "CommandContent": "eXVtIHVwZGF0ZQ==",
        "Timeout": 3600,
        "Type": "RunShellScript",
        "CommandId": "c-57881b01e5ec4403916f8685xxxxxxxx",
        "Description": "test2"
    },
    {
        "Name": "Test3",
        "WorkingDir": "",
        "CommandContent": "c2VydmljZSBuZ2lueCBYZWxvYWQ=",
        "Timeout": 3600,
        "Type": "RunShellScript",
        "CommandId": "c-742eea007af14043b07c4978xxxxxxxx",
        "Description": "test3"
    },
    {
        "Name": "Test4",
        "WorkingDir": "",
        "CommandContent": "bHM=",
        "Timeout": 3600,
        "Type": "RunShellScript",
        "CommandId": "c-cec3ded3bc434c22aabcfeaxxxxxxxxx",
        "Description": "test4"
    }
],
    "PageNumber": 1,
    "RequestId": "36443468-4AE5-44DB-A6FE-A528xxxxxxxx",
    "PageSize": 10
}

```

Error response example

XML format

```

<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>MissingParameter.RegionId</Code>
  <Message>The input parameter "RegionId" that is mandatory for
processing this request is not supplied.</Message>

```

```
</Error>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx",
  "HostId": "ecs.aliyuncs.com"
  "Code": "MissingParameter.RegionId"
  "Message": "The input parameter \"RegionId\" that is mandatory for
processing this request is not supplied."
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter <code>RegionId</code> , or you cannot use the resources in the specified region.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified <code>RegionId</code> parameter does not exist.
InternalServerError.Dispatch	An internal error occurred when dispatch the request	500	Internal error. Please try again later.

9.8 DescribeInvocations

Queries the cloud assistant command invocation list and status on your ECS instances.

Description

When the `InvokeStatus` value is `Finished`, it indicates that the command process is `Finished`, but not necessarily is as effective as expected. You can check the specific invocation result by calling [DescribeInvocationResults](#).

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>DescribeInvocations</code> .

Name	Type	Required	Description
RegionId	String	Yes	The region ID. For more information, call DescribeRegions to obtain the latest region list.
InvokeId	String	No	Invocation ID of a command process.
CommandId	String	No	Command ID. You can query all the available CommandId by calling the DescribeCommands .
CommandName	String	No	Name of the command.
Type	String	No	Type of the command. Optional values: - RunBatScript: A Bat script for Windows instances - RunPowerShellScript: A PowerShell script for Windows instances. - RunShellScript: A Shell script for Linux instances.
Timed	Boolean	No	Whether the command is periodically performed or not. Optional values: - True: Periodical invocation. - False: Not periodical invocation. Default value: False.
InvokeStatus	String	No	Specifies the overall invocation status of a command. The overall invocation status is depends on the invocation status of command processes on all target instances. Optional values: - Running: The command process is running. Periodical invocation: Before you manually stop a command on periodical invocation, the command process is always in the Running (Running) status. One-time invocation: The overall invocation status is Running (Running), as long as the command process is in the Running (Running) status on any target instance. - Finished: The invocation of the command process is completed. Periodical invocation: The command process can never be in the Finished (Finished) status.

Name	Type	Required	Description
			— One-time invocation: When invocation of command processes on all the target instances managed by the specified command is completed, the overall invocation status is Finished (<code>Finished</code>). Or when you manually stop the invocation of command processes on some target instances (<code>Stopped</code>) and the invocation on other target instances is completed, the overall invocation status is Finished (<code>Finished</code>). - Failed: The command process invocation failed, the command process timed out, or encountered other exceptions. — Periodical invocation: The command process can never be in the Failed (<code>Failed</code>) status. — One-time invocation: When invocation of command processes on all the target instances managed by the specified command fails, the overall invocation status is Failed (<code>Failed</code>). - PartialFailed: Part of the invocation of command processes failed. — Periodical invocation: The command process can never be in the PartialFailed (<code>PartialFailed</code>) status. — One-time invocation: The overall invocation status is PartialFailed (<code>PartialFailed</code>) when any command process is in the Failed (<code>Failed</code>) status on any target instance managed by the specified command. - Stopped: The command process is manually stopped.
InstanceId	String	No	Instance ID. When you pass in the parameter, the system queries the invocation-record status of all commands on the instance.

Name	Type	Required	Description
PageNumber	Integer	No	Current page number. Start value: 1. Default value: 1.
PageSize	Integer	No	The number of rows per page for multi-page display. Maximum value: 50. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of commands.
PageNumber	Integer	Page number of the query result.
PageSize	Integer	The number of rows per page.
Invocations	Array of Invocation Set Type	Type of the command invocation record set.

Type of the command invocation record set (InvocationSetType)

Name	Type	Description
Invocation	Array of Invocation Type	Command invocation type.

Command invocation type (InvocationType)

Name	Type	Description
InvokeId	String	Command invocation ID.
CommandId	String	Command ID.
CommandName	String	Command name.
InvokeStatus	String	Specifies the overall invocation status of a command. The overall invocation status is dependent on the invocation status of command processes on all the target instances. InstanceInvokeStatus . Optional values: - Running: The command process is running. Periodical invocation: Before you manually stop a command on periodical invocation, the command

Name	Type	Description
		process is always in the Running (Running) status. — One-time invocation: The overall invocation status is Running (Running), as long as the command process is in the Running (Running) status on any target instance. • Finished: The invocation of the command process is completed. — Periodical invocation: The command process can never be in the Finished (Finished) status. — One-time invocation: When invocation of command processes on all the target instances managed by the specified command is completed, the overall invocation status is Finished (Finished). Or when you manually stop the invocation of command processes on some target instances Stopped (Stopped), and the invocation on other target instances is completed, the overall invocation status is Finished (Finished). • Failed: The command process invocation failed, the command process timed out, or encountered other exceptions. — Periodical invocation: The command process can never be in the Failed (Failed) status. — One-time invocation: When invocation of command processes on all the target instances managed by the specified command fails, the overall invocation status is Failed (Failed). • PartialFailed: Part of the invocation of command processes failed. — Periodical invocation: The command process can never be in the PartialFailed (PartialFailed) status. — One-time invocation: The overall invocation status is PartialFailed (PartialFailed) when any command process is in the Failed (Failed

Name	Type	Description
		) status on any target instance managed by the specified command. Stopped: The command process is manually stopped.
CommandType	String	Command type
Timed	Boolean	Whether the command is periodically performed or not.
Frequency	String	The interval of a periodical task. For more information about the value specifications, see Cron expression.
InvokeInstances	Array of InvokeInstanceSetType	Type of the target instance set for invocation.

Type of the target instance set for invocation (InvokeInstanceSetType)

Name	Type	Description
InvokeInstance	Array of InvokeInstanceType	Invocation status type of the target instance.

Invocation status type of the target instance (InvokeInstanceType)

Name	Type	Description
InstanceId	String	Instance ID.
InstanceInvokeStatus	String	The command process status of the specified instance. - Running: The command process is running. Periodical invocation: Before you manually stop a command on periodical invocation, the command process is always in the Running (Running) status. One-time invocation: The command process status on the specified instance is Running (Running). - Finished: The invocation of the command process is completed. Periodical invocation: The command process can never be in the Finished (Finished) status.

Name	Type	Description
		— One-time invocation: The command process status on the specified instance is Finished (Finished). • Failed: The command process invocation failed, the command process timed out, or encountered other exceptions. — Periodical invocation: The command process can never be in the Failed (Failed) status. — One-time invocation: The command process status on the specified instance is Failed (Failed). • Stopped: The command process is manually stopped.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeInvocations
&RegionId=cn-hangzhou
&<Common Request Parameters>
```

Success response example

XML format

```
<DescribeInvocationsResponse>
  <TotalCount>5</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <Invocations>
    <Invocation>
      <InvokeStatus>Running</InvokeStatus>
      <InvokeId>t-a8935b93739442e59ed621a6xxxxxxx</InvokeId>
    >
      <CommandName>Test1</CommandName>
      <CommandType>RunShellScript</CommandType>
      <Frequency>0 */20 * * * *</Frequency>
      <InvokeInstances>
        <InvokeInstance>
          <InstanceId>i-uf614fhehhzmxxxxxxx</InstanceId>
        >
          <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
        </InvokeInstance>
        <InvokeInstance>
          <InstanceId>i-uf64isakb713xxxxxxx</InstanceId>
        >
          <InstanceInvokeStatus>running</InstanceIn
vokeStatus>
        </InvokeInstance>
      </InvokeInstances>
```

```

        <Timed>True</Timed>
        <CommandId>c-e67505b2be3e477dae94c0f0xxxxxxx</
CommandId>
    </Invocation>
    <Invocation>
        <InvokeStatus>Running</InvokeStatus>
        <InvokeId>t-001937b74e2a4242891fc789xxxxxxx</InvokeId
>
        <CommandName>Test2</CommandName>
        <CommandType>RunShellScript</CommandType>
        <Frequency>0 */15 * * * *</Frequency>
        <InvokeInstances>
            <InvokeInstance>
                <InstanceId>i-mbhsiukj851xxxxjk</InstanceId>
                <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
            </InvokeInstance>
            <InvokeInstance>
                <InstanceId>i-uf64isakb713xxxxxxx</InstanceId
>
                <InstanceInvokeStatus>Running</InstanceIn
vokeStatus>
            </InvokeInstance>
        </InvokeInstances>
        <Timed>True</Timed>
        <CommandId>c-6b0fb9d72adc421abab462abxxxxxxx</
CommandId>
    </Invocation>
    <Invocation>
        <InvokeStatus>success</InvokeStatus>
        <InvokeId>t-bd09beef975b4e50883e5df1xxxxxxx</InvokeId
>
        <CommandName>Test3</CommandName>
        <CommandType>RunShellScript</CommandType>
        <Frequency> </Frequency>
        <InvokeInstances>
            <InvokeInstance>
                <InstanceId>i-uf614fhehhzmxxxxxxx</InstanceId
>
                <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
            </InvokeInstance>
            sa<InvokeInstance>
                <InstanceId>i-uf64isakb713xxxxxxx</InstanceId
>
                <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
            </InvokeInstance>
        </InvokeInstances>
        <Timed>false</Timed>
        <CommandId>c-6b0fb9d72adc421abab462abxxxxxxx</
CommandId>
    </Invocation>
    <Invocation>
        <InvokeStatus>Success</InvokeStatus>
        <InvokeId>t-c7499dfdfdb44e8aa0acce5bxxxxxxx</InvokeId
>
        <CommandName>test</CommandName>
        <CommandType>RunShellScript</CommandType>
        <Frequency> </Frequency>
        <InvokeInstances>
            <InvokeInstance>

```

```

        <InstanceId>i-uf614fhehhzmxxxxxxx</InstanceId>
    >
        <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
        </InvokeInstance>
    </InvokeInstances>
    <Timed>>false</Timed>
    <CommandId>c-d2a8ccf6440641ec8635f194xxxxxxx</
CommandId>
    </Invocation>
    <InstanceId>Invention>
        <InvokeStatus>Running</InvokeStatus>
        <InvokeId>t-e733d4172fee452c98106f58xxxxxxx</InvokeId>
    >
        <CommandName>Test4</CommandName>
        <CommandType>RunBatScript</CommandType>
        <Frequency> </Frequency>
        <InvokeInstances>
            <InvokeInstance>
                <InstanceId>i-uf614fhehhzmxxxxxxx</InstanceId>
            >
                <Instanceinvokestatus> running </instancein
vokestatus>
            </InvokeInstance>
        </InvokeInstances>
        <Timed>>false</Timed>
        <CommandId>c-3f0e5e4a21c045afa197e036xxxxxxx</
CommandId>
    </Invocation>
</Invocations>
    <RequestId>12E7974A-5AA5-4933-A44C-A16Cxxxxxxx</RequestId>
</DescribeInvocationsResponse>

```

JSON format

```

{
    "TotalCount": 5,
    "PageNumber": 1,
    "PageSize": 10,
    "Invocations": {
        "Invocation": [
            {
                "InvokeStatus": "Running",
                "InvokeId": "t-a8935b93739442e59ed621a6xxxxxxx",
                "CommandName": "Test1",
                "CommandType": "RunShellScript",
                "Frequency": "0 */20 * * * *",
                "InvokeInstances": {
                    "InvokeInstance": [
                        {
                            "InstanceId": "i-uf614fhehhzmxxxxxxx",
                            "InstanceInvokeStatus": "finished"
                        },
                        {
                            "InstanceId": "i-uf64isakb713xxxxxxx",
                            "InstanceInvokeStatus": "running"
                        }
                    ]
                }
            },
            {
                "Timed": true,
                "CommandId": "c-e67505b2be3e477dae94c0f0xxxxxxx"
            }
        ]
    }
}

```

```

    },
    {
      "InvokeStatus": "Running",
      "InvokeId": "t-001937b74e2a4242891fc789xxxxxxxx",
      "CommandName": "Test2",
      "CommandType": "RunShellScript",
      "Frequency": "0 */15 * * * *",
      "InvokeInstances": {
        "InvokeInstance": [
          {
            "InstanceId": "i-uf614fhehhzmxxxxxxxx",
            "InstanceInvokeStatus": "finished"
          },
          {
            "InstanceId": "i-uf64isakb713xxxxxxxx",
            "InstanceInvokeStatus": "running"
          }
        ]
      },
      "Timed": true,
      "CommandId": "c-6b0fb9d72adc421abab462abxxxxxxxx"
    },
    {
      "InvokeStatus": "success",
      "InvokeId": "t-bd09beef975b4e50883e5df1xxxxxxxx",
      "CommandName": "Test3",
      "CommandType": "RunShellScript",
      "Frequency": "",
      "InvokeInstances": {
        "InvokeInstance": [
          {
            "InstanceId": "i-uf614fhehhzmxxxxxxxx",
            "InstanceInvokeStatus": "finished"
          },
          {
            "InstanceId": "i-uf64isakb713xxxxxxxx",
            "InstanceInvokeStatus": "finished"
          }
        ]
      },
      "Timed": false,
      "CommandId": "c-6b0fb9d72adc421abab462abxxxxxxxx"
    },
    {
      "InvokeStatus": "success",
      "InvokeId": "t-c7499dfdfdb44e8aa0acce5bxxxxxxxx",
      "CommandName": "test",
      "CommandType": "RunShellScript",
      "Frequency": "",
      "InvokeInstances": {
        "InvokeInstance": [
          {
            "InstanceId": "i-uf614fhehhzmxxxxxxxx",
            "InstanceInvokeStatus": "finished"
          }
        ]
      },
      "Timed": false,
      "CommandId": "c-d2a8ccf6440641ec8635f194xxxxxxxx"
    },
    {
      "InvokeStatus": "Running",

```

```

        "InvokeId": "t-e733d4172fee452c98106f58xxxxxxxx",
        "CommandName": "Test4",
        "CommandType": "RunBatScript",
        "Frequency": "",
        "InvokeInstances": {
            "InvokeInstance": [
                {
                    "InstanceId": "i-uf614fhehhzmxxxxxxxx",
                    "InstanceInvokeStatus": "running"
                }
            ]
        },
        "Timed": false,
        "CommandId": "c-3f0e5e4a21c045afa197e036xxxxxxxx"
    }
},
"RequestId": "12E7974A-5AA5-4933-A44C-A16Cxxxxxxxx"
}

```

Error response example

XML format

```

<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>MissingParameter.RegionId</Code>
  <Message>The input parameter "RegionId" that is mandatory for
processing this request is not supplied.</Message>
</Error>

```

JSON format

```

{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxx",
  "HostId": "ecs.aliyuncs.com",
  "Code": "MissingParameter.RegionId",
  "Message": "The input parameter "RegionId" that is mandatory for
processing this request is not supplied."
}

```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter of RegionId, or you cannot use the resources in the specified RegionId.

Error code	Error message	HTTP status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified RegionId does not exist.
InternalServerError.Dispatch	An internal error occurred when dispatch the request	500	Internal error. Please try again later.

9.9 DescribeInvocationResults

Queries the invocation result of a cloud assistant command, that is, the actual Output information of a specified ECS instance.

Description

After you use the [DescribeInvocations](#) interface to check the command invocation status and the returned `InvokeStatus` is `Finished`, it indicates that the command process is `Finished`, but not necessarily is as effective as expected. You need to check the `Output` parameter in [DescribeInvocationResults](#) to get the specific invocation result. The actual output result is the valid version.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeInvocationResults.
RegionId	String	Yes	The regional ID. For more information, see DescribeRegions .
CommandId	String	No	Command ID. For more information, call DescribeRegions to obtain the latest region list.
InstanceId	String	No	Instance ID.
InvokeId	String	No	Invocation ID of a command process. You can use the DescribeInvocations API to check all the InvokeId.
InvokeRecordStatus	String	No	The status of the command process you want to query. Optional values: Running: The command process is running.

Name	Type	Required	Description
			- Failed: The command process invocation failed, the command process timed out, or encountered exceptions. - Finished: The invocation of the command process is completed. - Stopped: The command process is manually stopped.
PageNumber	Integer	No	Current page number. Start value: 1.
PageSize	Default value: 1.	No	The number of rows per page for multi-page display. Maximum value: 50. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of commands.
Pagenumber	Integer	Page number of the query result.
Pagesize	Integer	The number of rows per page.
InvocationResults	Array	Command invocation result set (InvocationResultSetType).

InvocationResultSetType

Name	Type	Description
Invocationresult	Array	Invocation result type on the instance (InvocationResultType). Only one entry of result are returned for one-time invocation.

InvocationResultType

Name	Type	Description
CommandId	String	Command ID.
Invokeld	String	Invocation ID.
InstanceId	String	Instance ID.
FinishedTime	String	Time of command process completion. If a command process times out, the time of completion for the

Name	Type	Description
		command process is based on CreateCommand TimedOut.
Invokerecordstatus	String	Invocation status of the command process. Optional values: - Running: The command process is running. - Failed: The command process invocation failed, the command process timed out, or encountered exceptions. - Finished: The invocation of the command process is completed. - Stopped: The command process is manually stopped.
Output	String	The actual result after the command process completion. The output content is transmitted in the Base64-encoded format.
Exitcode	Integer	The exit code of the command process: - The exit code is the Shell process exit code for Linux instances. - The exit code is the Bat or PowerShell process exit code for Windows instances.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeInvocationResults
&RegionId=cn-hangzhou
&<Common Request Parameters>
```

Success response example

XML format

```
<DescribeInvocationResultsResponse>
  <TotalCount>5</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>5</PageSize>
  <Invocationresults>
    <Invocationresult>
      <FinishedTime>2018-01-05 15:45:02</FinishedTime>
      <Invokerecordstatus> finished </invokerecordstatus>
      <InstanceId>i-uf614fhehhzmxxxxxxx</InstanceId>
      <InvokeId>t-001937b74e2a4242891fc789xxxxxxx</InvokeId>
      <Output>MTU6NDU6MDEK</Output>
      <CommandId>c-6b0fb9d72adc421abab462abxxxxxxx</CommandId>
      <ExitCode>0</ExitCode>
    </InvocationResult>
  </Invocationresults>
</DescribeInvocationResultsResponse>
```

```

<InvocationResult>
  <FinishedTime>2018-01-05 15:40:02</FinishedTime>
  <InvokeRecordStatus>finished</InvokeRecordStatus>
  <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId>
  <InvokeId>t-a8935b93739442e59ed621a6xxxxxxxx</InvokeId>
  <Output> </Output>
  <CommandId>c-e67505b2be3e477dae94c0f0xxxxxxxx</CommandId>
  <ExitCode>0</ExitCode>
</InvocationResult>
<InvocationResult>
  <FinishedTime>2018-01-05 15:30:02</FinishedTime>
  <InvokeRecordStatus>finished</InvokeRecordStatus>
  <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId>
  <InvokeId>t-001937b74e2a4242891fc78xxxxxxxx</InvokeId>
  <Output>MTU6MzA6MDEK</Output>
  <CommandId>c-6b0fb9d72adc421abab462abxxxxxxxx</CommandId>
  <ExitCode>0</ExitCode>
</InvocationResult>
<InvocationResult>
  <FinishedTime>2018-01-05 15:20:02</FinishedTime>
  <InvokeRecordStatus>finished</InvokeRecordStatus>
  <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId>
  <InvokeId>t-a8935b93739442e59ed621a6xxxxxxxx</InvokeId>
  <Output> </Output>
  <CommandId>c-e67505b2be3e477dae94c0f0xxxxxxxx</CommandId>
  <Exitcode> 0 </exitcode>
</InvocationResult>
<InvocationResult>
  <FinishedTime>2018-01-05 15:15:02</FinishedTime>
  <InvokeRecordStatus>finished</InvokeRecordStatus>
  <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId>
  <InvokeId>t-001937b74e2a4242891fc789xxxxxxxx</InvokeId>
  <Output>MTU6MTU6MDEK</Output>
  <CommandId>c-6b0fb9d72adc421abab462abxxxxxxxx</CommandId>
  <ExitCode>0</ExitCode>
</InvocationResult>
</InvocationResults>
  <RequestId>567FA138-6026-47C6-A299-5D50xxxxxxxx</RequestId>
</DescribeInvocationResultsResponse>

```

JSON format

```

{
  "Invocation": {
    "TotalCount": 5,
    "PageNumber": 1,
    "InvocationResults": {
      "InvocationResult": [
        {
          "FinishedTime": "2018-01-05 15:45:02",
          "InvokeRecordStatus": "finished",
          "InstanceId": "i-uf614fhehhzmxxxxxxxx",
          "InvokeId": "t-001937b74e2a4242891fc789xxxxxxxx",
          "Output": "MTU6NDU6MDEK",
          "CommandId": "c-6b0fb9d72adc421abab462abxxxxxxxx",
          "ExitCode": 0
        },
        {
          "FinishedTime": "2018-01-05 15:40:02",
          "InvokeRecordStatus": "finished",
          "InstanceId": "i-uf614fhehhzmxxxxxxxx",

```

```

        "InvokeId": "t-a8935b93739442e59ed621a6xxxxxxxx",
        "Output": "",
        "CommandId": "c-e67505b2be3e477dae94c0f0xxxxxxxx",
        "ExitCode": 0
    },
    {
        "FinishedTime": "2018-01-05 15:30:02",
        "InvokeRecordStatus": "finished",
        "InstanceId": "i-uf614fhehhzmxxxxxxxx",
        "InvokeId": "t-001937b74e2a4242891fc78xxxxxxxx",
        "Output": "MTU6MzA6MDEK",
        "CommandId": "c-6b0fb9d72adc421abab462abxxxxxxxx",
        "ExitCode": 0
    },
    {
        "FinishedTime": "2018-01-05 15:20:02",
        "InvokeRecordStatus": "finished",
        "InstanceId": "i-uf614fhehhzmd3zj4k74",
        "InvokeId": "t-a8935b93739442e59ed621a6xxxxxxxx",
        "Output": "",
        "CommandId": "c-e67505b2be3e477dae94c0f0xxxxxxxx",
        "ExitCode": 0
    },
    {
        "FinishedTime": "2018-01-05 15:15:02",
        "InvokeRecordStatus": "finished",
        "InstanceId": "i-uf614fhehhzmd3zj4k74",
        "InvokeId": "t-001937b74e2a4242891fc789xxxxxxxx",
        "Output": "MTU6MTU6MDEK",
        "CommandId": "c-6b0fb9d72adc421abab462abxxxxxxxx",
        "ExitCode": 0
    }
]
    },
    "PageSize": 5
},
"RequestId": "567FA138-6026-47C6-A299-5D50xxxxxxxx"
}

```

Error response example

XML format

```

<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>MissingParameter.RegionId</Code>
  <Message>The input parameter "RegionId" that is mandatory for
processing this request is not supplied.</Message>
</Error>

```

JSON format

```

{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxx",
  "HostId": "ecs.aliyuncs.com",
  "Code": "MissingParameter.RegionId",
  "Message": "The input parameter "RegionId" that is mandatory for
processing this request is not supplied."
}

```

```
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [API Error Center](#).

Error code	Error message	HTTP status code	Meaning
MissingParameter.RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter <code>RegionId</code> , or you cannot use the resources in the <code>RegionId</code> .
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified <code>RegionId</code> does not exist.
InternalServerError.Dispatch	An internal error occurred when dispatch the request.	500	Internal error. Please try again later.

9.10 ModifyCommand

Modifies the parameters and content of a cloud assistant command.

Description

- You can modify a command during its invocation. After the modification, the new command content applies to subsequent invocations.
- You cannot modify the command type. For example, you cannot change a Shell command (`RunShellScript`) to a Bat command (`RunBatScript`).

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: <code>ModifyCommand</code> .
RegionId	String	Yes	The region ID. For more information, call DescribeRegions to obtain the latest region list.

Name	Type	Required	Description
CommandId	String	Yes	Command ID. You can check all the available CommandId by calling the DescribeCommands API.
Name	String	No	Command name. Supporting all the character encoding sets.
Description	String	No	Command description. Supporting all the character encoding sets.
WorkingDir	String	No	The path where the command is performed. Default value: - For Linux instances, commands are performed in the <code>/root</code> directory. - For Windows instances, commands are performed in the directory where the cloud assistant client process is located, such as <code>C:\ProgramData\aliyun\assist\\$(version)</code>.
TimeOut	Integer	No	The invocation timeout value of a command on ECS instances. The unit is seconds. When your command fails to

Name	Type	Required	Description
			run for some reason, the invocation may time out, after which the cloud assistant client forces the command process to stop by canceling the command PID. The parameter value must be greater than or equal to 60. If the value is smaller than 60, the timeout value is 60 seconds by default. Default value: 3600.

Response parameters

All parameters are common response parameters. For more information, see [Common parameters](#).

Examples

Request parameters

```
https://ecs.aliyuncs.com/?Action=ModifyCommand
&RegionId=cn-hangzhou
&CommandId=c-e996287206324975b5fbe1dxxxxxxxxxx
&NameId=Test
&TimeOut=120
<Common Request Parameters>
```

Success response example

XML format

```
<ModifyCommandResponse>
  <RequestId>540CFF28-407A-40B5-B6A5-73Bxxxxxxxxxx</RequestId>
</ModifyCommandResponse>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-73Bxxxxxxxxxx",
}
```

Error response example

XML format

```
<Error>
  <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>InvalidInstance.NoClient</Code>
  <Message>The specified instances have no cloud assistant client
installed.</Message>
</Error>
```

JSON format

```
{
  "RequestId": "540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx",
  "HostId": "ecs.aliyuncs.com"
  "Code": "InvalidInstance.NoClient"
  "Message": "The specified instances have no cloud assistant
client installed."
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see [common parameters](#).

Error code	Error message	HTTP status code	Meaning
MissingParameter. CommandId	The input parameter "CommandId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter of CommandId.
MissingParameter. RegionId	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the required parameter of RegionId, or you cannot use the resources in the specified region (RegionId).
InvalidCmdId. NotFound	The specified CommandId does not exist.	404	The specified CommandId does not exist.
InvalidRegionId. NotFound	The RegionId provided does not exist in our items.	404	The specified RegionId does not exist.

Error code	Error message	HTTP status code	Meaning
InternalServerError.Dispatch	An internal error occurred when dispatch the request.	500	Internal error. Please try again later.

10 Data types

10.1 AccessPointSetType

A set of physical connection access point information. It is a list comprised of AccessPointType.

Node

Depends on the methods.

Subnode

[AccessPointType](#)

10.2 AccessPointType

Type of access point (AP) information.

Node

Depends on the methods.

Subnode

Name	Type	Description
AccessPointId	String	AP ID.
Type	String	Type of a physical connection AP. Possible values: VPC: VPC AP, which can be connected to a physical connection accessing a VPC network.
Status	String	Status of a physical connection AP. Possible values: - Recommended: The status is good, and connection is recommended. - Hot: The status is normal, and the number of connected users is large. - Full: The number of connected users reaches the upper limit, and no more users can be connected.
Name	String	Name of a physical connection AP.
Description	String	Description of a physical connection AP.
AttachedRegionId	String	Physical region ID of an AP. If this region ID is empty, the AP does not belong to any region physically.
Location	String	Physical location of a physical connection AP.

Name	Type	Description
HostOperator	String	Data center carrier of a physical connection AP.

10.3 AccountType

Information of Alibaba Cloud account ID.

Node

Account

Subnode

Name	Type	Description
AliyunId	String	ID of an Alibaba Cloud account .

10.4 AutoSnapshotPolicyType

Type of an automatic snapshot policy, including its detailed settings.

Node Name

Depends on the interface.

Subnode

Name	Type	Description
AutoSnapshotPolicyId	String	Automatic snapshot policy ID.
RegionId	String	Regionid to which the auto-Snapshot policy belongs.
Autosnapshotpolicyname	String	The name of the automatic snapshot policy.
TimePoints	String	Specifies the point in time at which the automatic snapshot is created. The minimum unit is hours, from 00: 00 ~ 23:00 . A total of 24 time points are available, and the parameters are 0 ~ 23. For example: 1 represents 01:00. You can select multiple time points. The pass-through parameter is a JSON array in a format of ["0

Name	Type	Description
		", "1 ",... "23"] (at most 24 time points) separated by half-angle commas (,).
Repeatweekdays	String	Specifies the repeat date for the automatic snapshot. The date on which the snapshot needs to be created from Monday to Sunday, with a parameter of 1 ~ 7. For example: 1 indicates Monday. You can select multiple dates. The pass-through parameter is a JSON array in a format of ["1", "2 "... "7"].
RetentionDays	Integer	Specifies the retention time , in days, of the automatic snapshot. -1: Permanent save 1 ~ 65536: specify the number of days to save.
DiskNums	Integer	Number of disks on which this policy is enabled.
OperationLocks	OperationLocksType	Snapshot lock reason type.
Status	String	Automatic snapshot policy status, value: Creating available.
CreationTime	String	Creation time, formatted according to the ISO8601 standard, and uses UTC time . Format: YYYY-MM-DDThh:mmZ.

10.5 AutoSnapshotExecutionStatusType

Type of the automatic snapshot execution status. Results of the last execution are returned.

Node Name

Depends on the methods.

Subnode

Name	Type	Description
SystemDiskExecutionStatus	String	Returns the status of the last execution: Standby Executed Failed. • Standby: The setting has just been finished and the execution has not yet started, or the automatic snapshot policy for system disks is disabled. • Executed: Execution succeeded. • Failed: Execution failed.
DataDiskExecutionStatus	String	Returns the status of the last execution: Standby Executed Failed. • Standby: The setting has just been finished and the execution has not yet started, or the automatic snapshot policy for data disks is disabled. • Executed: Execution succeeded. • Failed: Execution failed.

10.6 AvailableDiskCategoriesType

Available disk categories.

Node name

Depends on the methods.

Subodes

Name	Type	Description
DiskCategories	String	Type of Disk.

Name	Type	Description
		- cloud: Basic cloud disks and independent cloud disks. - cloud_ssd: Cloud SSD disks. - ephemeral: Ephemeral disks. - ephemeral_ssd: Ephemeral SSDs.

10.7 AvailableInstanceTypesType

The supported instance types.

Node

Depends on the methods.

Subnode

Name	Type	Description
InstanceTypes	Array	The instance types

10.8 Availableresourcecreationtype

Type of resources that can be created.

Node Name

Depends on the methods.

Subnode

Name	Type	Description
ResourceTypes	String	Resource type. Possible values: - Instance: Allows creation of instances. - IoOptimized: Allows creation of IO Optimized instances. - Disk: Supports disk Creation.

Name	Type	Description
		• VSwitch: Allows creation of VPCs.

10.9 AvailableResourcesType

Available resource types.

Node

Depends on the methods.

Subnode

Name	Type	Description
IoOptimized	String	Whether a resource is I/O optimized or not.
supportedNetworkCategory	String	Available network types.
supportedInstanceGeneration	Array	Available instance generations.
supportedInstanceTypeFamily	Array	Available instance type families.
supportedSystemDiskCategory	Array	Categories of system disks that can be created. The return value is an array.
supportedDataDiskCategory	Array	Categories of data disks that can be created. The return value is an array.
supportedInstanceType	Array	Types of instances that can be created. The return value is an array.

10.10 BandwidthPackageItemType

Description of a shared bandwidth package.

Node name

Depends on the methods.

Subnodes

Name	Type	Description
BandwidthPackageId	String	ID of a bandwidth package, for example, bwp-xxoo123
RegionId	String	Region
Name	String	Display name of an instance , which is a string of two to 128 English or Chinese characters. It must start with an uppercase/lowercase letter or a Chinese character and can contain numbers, ".", ":", "_", or "-". It cannot start with "http://" or "https://".
Description	String	Custom description of an instance, which is a string of two to 256 characters. This parameter is null if not specified. The default value is "null". It cannot start with "http://" or "https://".
ZoneId	String	Zone
GatewayId	String	ID of the NAT gateway associated with a bandwidth package.
BandWidth	String	Bandwidth value; value range: 5 to 5,000, in Mbps.
InstanceChargeType	String	Instance billing method. Currently, only Pay-As-You-Go is supported. Value: PostPaid , applicable to Pay-As-You-Go instances.
InternetChargeType	String	Internet billing method. Optional values: PayByTraffic. PayByTraffic
ISP	String	Currently, only BGP is supported.

Name	Type	Description
PublicIpAddresses	PublicIpAddressSetType	IP address list. Each IP address has a globally unique <code>AllocatedId</code> attribute and an <code>IP address</code> attribute.
BusinessStatus	String	Optional values: <code>Normal</code> (normal). <code>FinancialLocked</code> (locked due to overdue payment). <code>SecurityLocked</code> (locked by security risk control).
CreationTime	String	Creation time Formatted according to the ISO8601 standard, and uses UTC time . Format: YYYY-MM-DDThh:mmZ.

10.11 BandwidthPackageSetType

A list of shared bandwidth packages.

Node

Depends on the methods.

Subnode

An array comprised of [BandwidthPackageItemType](#).

10.12 DiskDeviceMapping

Describe the relation between images and snapshots.

Node Name

Depends on the methods.

Subnode

Name	Type	Description
SnapshotId	String	Snapshot ID.
Size	String	Size of the created disk.

Name	Type	Description
Device	String	Device information of the created disk: such as /dev/xvdb.
Format	String	Mirror format.
ImportOSSBucket	String	The OSS bucket that stores the image.
ImportOSSObject	String	The image object in OSS.

10.13 DiskItemType

Enumerates the type of disk information entry.

Node name

Disk

Subodes

Name	Type	Description
DiskId	String	Disk ID.
RegionId	String	Region ID of the instance.
ZoneId	String	The Zone to which the disk belongs.
DiskName	String	Disk name.
Description	String	Disk description.
Type	String	Disk type. Possible values: • system: System disk. • data: Data disk.
Category	String	Category of disk. Possible values: • cloud: Basic cloud disk. • cloud_efficiency: Ultra Cloud Disks. • cloud_ssd: SSD Cloud Disks. • ephemeral_ssd: Ephemeral SSD.

Name	Type	Description
		ephemeral: Ephemeral disk.
Encrypted	Boolean	Whether the disk is encrypted or not. Possible values: - true: The disk is encrypted. - false: The disk is not encrypted.
Size	Integer	Disk size in GiB.
ImageId	String	ID of the image from which the disk is created. It is null unless the disk is created using an image. Its value remains unchanged throughout the life cycle of the disk.
SourcesnapshotId	String	Snapshot used to create the disk. It is null if no snapshot is used to create the disk. Its value remains unchanged throughout the life cycle of the disk.
ProductCode	String	ID of a product available in the image marketplace.
IOPSRead	String	Disk IO reads, measured in /s.
IOPSWrite	String	Disk IO writes, measured in /s.
IOPS	String	Disk IO reads and writes, measured in /s.
Portable	String	Whether the disk is detachable. Possible values: - true: The disk is an independent basic cloud disk. This type of disk exists independently and can be attached or detached in the same zone. - false: The disk is a non-independent basic cloud disk. Such disk is created

Name	Type	Description
		or deleted along with an instance. Only when the <code>Portable</code> attribute of the disk is <code>true</code> you can operate AttachDisk or DetachDisk on a disk. The <code>Portable</code> attribute is <code>false</code>. For subscribed ephemeral disks, ephemeral SSDs, basic cloud system disks, and basic cloud disks. Their portable attribute cannot be modified.
Status	String	Disk status. Possible values: • <code>In_use</code> • <code>Available</code> • <code>Attaching</code> • <code>Detaching</code> • <code>Creating</code> • <code>ReIniting</code>
OperationLocks	OperationLocksType	The reason why the disk is locked.
InstanceId	String	ID of the related instance. It is null unless the Status is In Use (<code>In_use</code>).
Device	String	Device information of the related instance, such as <code>/dev/xvdb</code> . It is null unless the Status is In Use (<code>In_use</code>).
DeleteWithInstance	String	Whether the disk is released along with the release of the instance or not. Possible values: • <code>true</code>: The disk is released along with the release of the instance. • <code>false</code>: The disk is not released along with the release of the instance.

Name	Type	Description
DeleteAutoSnapshot	String	Whether auto snapshots are deleted or not when the disk is deleted. Possible values: • true: Deletes the snapshot simultaneously. • false: Retains the snapshot. Snapshots created using CreateSnapshot or in the console are not affected. They are retained permanently.
EnableAutoSnapshot	String	Whether auto snapshot policies are enforced or not for the disk. Possible values: • true: Auto snapshot policies are enforced for the disk. • false: Auto snapshot policies are not enforced for the disk. Default: false.
CreationTime	String	Creation time. It is represented according to ISO8601 , and UTC time is used. Format: YYYY-MM-DDThh:mmZ.
AttachedTime	String	The time when the disk is attached. It is represented according to ISO8601 , and UTC time is used. Format: YYYY-MM-DDThh:mmZ Only when the Status is In Use (In_use), it is valid.
DetachedTime	String	Time when the disk is detached. It is represented according to ISO8601 , and UTC time is used. Format: YYYY-MM-DDThh:mmZ. Only when the Status is Available (Available), it is valid.

Name	Type	Description
DiskChargeType	String	The billing method of the disk. Possible values: • PrePaid: Subscription. • PostPaid: Pay-As-You-Go.

10.14 DiskMonitorDataType

Type of disk monitoring data.

Node Name

DiskMonitorData

Subnode

Name	Type	Description
DiskId	String	ID of the disk.
Bpsread	Integer	Disk read bandwidth, measured in Byte/s.
Bpswrite	Integer	Disk write bandwidth, measured in Byte/s.
BPSTotal	Integer	Total disk read and write bandwidth, measured in Byte/s.
IOPSRead	Integer	Disk IO reads, measured in /s.
IOPSWrite	Integer	Disk IO writes, measured in /s.
IOPSTotal	Integer	Total disk IO read and write operations, measured in /s.
Latencyread	Integer	Read latency of a disk, measured in Byte/s.
Write latency of a disk, measured in Byte/s.	Integer	Write latency of a disk, measured in Byte/s.
TimeStamp	String	Time stamp of the query, which is presented according to ISO8601 , and UTC time is used. The format is yyyy-MM-ddThh:mmZ.

10.15 DiskSetType

Type of a disk information list.

Node name

Disks

Subnodes

Name	Type	Description
Disk	Diskitemtype	Disk information.

10.16 EipAddressAssociateType

Describes the EIP binding information.

Node

Depends on the methods.

Subnodes

Name	Type	Description
AllocationId	String	Instance ID with an EIP address.
IpAddress	String	EIP address.
BandWidth	Integer	Peak Internet bandwidth speed of the EIP. The unit of measurement is Mbps. Default: 5.
InternetChargeType	String	Billing method of the EIP.
IsSupportUnassociate	Boolean	Whether the EIP can be unbound from the instance or not.

10.17 ImageType

The data types for image information.

Node Name

Image

Node name

Name	Type	Description
ImageId	String	ID of the image.
ImageVersion	String	Version of the image.
OSType	String	Platform type of the image system. Possible values: - Windows - Linux
Platform	String	OS platform.
Architecture	String	Image system. Possible values : i386 x86_64.
ImageName	String	Name of the image.
Description	String	Description
Size	Integer	Size of the image.
ImageOwnerAlias	String	Alias of the image owner. Possible values: - system: Public images provided by Alibaba Cloud system. - self: Custom images. - others: Images shared by other users. - marketplace: Images available on the image market.
Osname	String	Display name of the OS.
DiskDeviceMappings	DiskDeviceMapping	Description of the system with disks and snapshots under an image.
ProductCode	String	Product code of the image on the image market.
IsSubscribed	Boolean	Whether the user has subscribed to the terms of service for the image

Name	Type	Description
		product corresponding to the ProductCode. Possible values: • true: Indicates subscription has been made. • false: Indicates subscription has not been made.
Progress	String	Progress of image creation, presented in percentages.
Status	String	Status of the image. Possible values: • Unavailable • Available • Creating • CreateFailed
CreationTime	String	Time of creation. It is represented according to ISO8601. UTC time is used . Format: YYYY-MM-DDThh:mmZ.
Usage	String	Resource type with reference relationships: instance/none.
IsCopied	String	Is it a copied mirror. Possible values: true false.

10.18 InstanceAttributesType

Lists the ECS instance attributes.

Node

Depends on the interface.

Subnodes

Name	Type	Description
InstanceId	String	Instance ID.
InstanceName	String	Instance name.
Description	String	Instance description.

Name	Type	Description
ImageId	String	ID of the image that is running in the instance.
RegionId	String	ID of the region where the instance belongs.
ZoneId	String	Zone ID of the zone where the ENS instance is located.
Cpu	Integer	Number of vCPU.
GPUSpec	String	GPU processor type of the instance.
GPUAmount	Integer	GPU processor number of the instance.
Memory	Float	Memory size in GiB.
InstanceType	String	Instance type.
InstanceTypeFamily	String	Instance type family
HostName	String	Instance host name.
SerialNumber	String	Instance serial number.
Status	String	Instance status.
SecurityGroupIds	SecurityGroupIdSetType	Security groups that manage the specified instance.
PublicIpAddress	IpAddressSetType	Public IP address of the instance.
InternetMaxBandwidthIn	Integer	Maximum incoming bandwidth from the internet network.
InternetMaxBandwidthOut	Integer	Maximum outgoing bandwidth to the internet network.
InternetChargeType	String	The billing method of the network bandwidth. Possible values: PayByTraffic: You are billed based on the traffic.
CreationTime	String	Instance creation time. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
InstanceNetworkType	String	Network type of the instance. Possible values: Classic Vpc
VpcAttributes	VpcAttributesType	VPC related attributes of an ECS instance.
EipAddress	EipAddressAssociationType	EIP binding information.
InnerIpAddress	IpAddressSetType	Intranet IP address.
OperationLocks	OperationLocksType	Reason why an instance is locked.

Name	Type	Description
InstanceChargeType	String	Instance billing method. Possible values: - PrePaid: Subscription. - PostPaid: Pay-As-You-Go.
SaleCycle	String	The billing cycle selected for a Subscription instance. Optional values: week month year.
SpotPriceLimit	Float	The hourly price threshold for a preemptible instance, and it takes effect only when parameter <code>SpotStrategy=SpotWithPriceLimit</code> . Three decimal places are allowed at most.
SpotStrategy	String	The spot price you are willing to accept for preemptible instances. Possible values: - NoSpot: A normal Pay-As-You-Go instance. - SpotWithPriceLimit: Sets the maximum price for a spot instance. - SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance. Default value: NoSpot.
DeviceAvailable	Boolean	Whether a new disk can attach to the instance or not.
StoppedMode	String	Whether a VPC-Connected ECS instance is charged after it is stopped or not. Possible values: - KeepCharging: You are billed after the ECS instance is stopped, and its resource and Internet IP address are reserved. - StopCharging: You are not billed after the ECS instance is stopped, and its resource and Internet IP address are not reserved. You may be unable to restart the instance. - Not-applicable: The instance is not applicable for using the StoppedMode parameter.
DeploymentSetId	String	Deployment set ID.
NetworkInterfaces	NetworkInterfaceType	The ENI related information.
IoOptimized	Boolean	Whether an instance is I/O optimized or not.

Name	Type	Description
ExpiredTime	String	Time of expiration. The time format follows the ISO8601 standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
KeyPairName	String	SSH key pair name.

10.19 InstanceMonitorDataType

Type of instance metric data.

Node

InstanceMonitorData

Subnode

Name	Type	Description
InstanceId	String	ID of the instance.
CPU	Integer	CPU usage, measured in percentages (%).
IntranetRX	Integer	Intranet traffic received by the instance, measured in kbits.
IntranetTX	Integer	Intranet traffic sent by the instance, measured in kbits.
IntranetBandwidth	Integer	Intranet bandwidth of the instance, network traffic per unit time, measured in kbits/s.
InternetRX	Integer	Internet traffic received by the instance, measured in kbits.
InternetTX	Integer	Internet traffic sent by the instance, measured in kbits.
InternetBandwidth	Integer	Internet bandwidth of the instance, network traffic per unit time, measured in kbits/s.
IOPSRead	Integer	System disk IO reads, measured in /s.
IOPSWrite	Integer	System disk IO writes, measured in /s.

Name	Type	Description
BPSRead	Integer	System disk read bandwidth, measured in Byte/s.
BPSWrite	Integer	System disk write bandwidth, measured in Byte/s.
TimeStamp	String	Time of the traffic query, which is presented according to ISO8601 , and UTC time is used. The format is YYYY-MM-DDThh:mmZ.

10.20 InstanceRamRoleSetType

A data type of ECS instance RAM role information.

Node

InstanceRamRoleSet

Subnodes

Name	Type	Description
InstanceId	String	Instance ID.
RamRoleName	String	The instance RAM role names list.

10.21 InstanceStatusItemType

Type of the instance status.

Node Name

InstanceStatus

Subnode

Name	Type	Description
InstanceId	String	Instance ID.
Status	String	Instance status.

10.22 InstanceStatusSetType

Set of instance status items.

Node Name

InstanceStatuses

Subnode

Name	Type	Description
InstanceStatus	InstanceStatusItemType	A set of InstanceStatusItemType .

10.23 InstanceTypeFamilyItemType

The type of the Instance specification family item.

Node Name

InstanceTypeFamily

Subnode

Name	Type	Description
InstanceTypeFamilyId	String	The instance type family ID.
Generation	String	The generation of the instance type familyspecification.

10.24 InstanceTypeItemType

Type of an instance type item.

Node

InstanceType

Subnode

Name	Type	Description
InstanceTypeId	String	ID of the instance type.
CpuCoreCount	Integer	Number of CPU cores.
MemorySize	Double	Memory size in GiB.
InstanceTypeFamily	String	Instance type family.

Name	Type	Description
GPUEAmount	Integer	The amount of GPU of an instance type.
GPUSpec	String	The category of GPU of an instance type.
BaselineCredit	Integer	The compute performance benchmark of a t5 instance.
EniQuantity	Integer	The maximum number of network interface that an instance type can be attached to.
LocalStorageCapacity	Long	The capacity of a local storage.
LocalStorageAmount	Integer	The number of local storage that an instance has been attached to.
LocalStorageCategory	String	The category of local storage that an instance has been attached to.

10.25 IpAddressSetType

Set of IP addresses.

Node Name

Depends on the methods.

Subnode

Name	Type	Description
IpAddress	String	IP address.

10.26 IpRangeSetType

Type of an IP address segment set.

Node Name

IpRanges

Subnode

Name	Type	Description
IpAddress	String	IP address range specified in CIDR format.
NicType	String	Network type, which can be Internet or Intranet.

10.27 KeyPairItemType

Type of the SSH key pair.

Node

KeyPairs

Subnode

Name	Type	Description
KeyPairName	String	Name of the key pair.
KeyPairFingerPrint	String	Fingerprint of the key pair.

10.28 KeyPairSetType

Type of the SSH key pair combination.

Node Name

Depends on the methods.

Subnode

Name	Type	Description
KeyPair	KeyPairItemType	The KeyPairItemType of the key pair.

10.29 OperationLocksType

The reason why a resource is locked.

Node

OperationLock

Subnodes

Name	Type	Description
LockReason	String	Lock reason. Possible values: - financial: Overdue payment. - security: Security considerations. - recycling: Pending release lock status for preemptible instances.

10.30 OperationProgressType

Implementation details of an operation task on a resource.

Node Name

OperationProgress

Subnode

Name	Type	Description
RelatedItemSet	RelatedItemSetType	Resource information type.
OperationStatus	String	Operation status. Possible values: - Processing - Success - Failed
ErrorCode	String	Error code. It is null unless OperationStatus is Failed.
ErrorMsg	String	Error message. It is null unless OperationStatus is Failed.

10.31 PermissionSetType

Type of a set of security group rules.

Node Name

Permissions

Subnode

Name	Type	Description
Permission	PermissionType	Security group Permission Type.

10.32 PermissionType

Type of a security group rule.

Node Name

Permission

Subnode

Name	Type	Description
IpProtocol	String	IP protocol.
PortRange	String	Port range.
SourceCidrIp	String	Source IP address segment for inbound authorization.
Sourcegroupid	tring	Source security group for inbound authorization.
SourceGroupOwnerAccount	String	Alibaba Cloud account of the source security group.
DestCidrIp	String	Target IP address segment for egress authorization.
Destgroupid	String	Target security group for outbound authorization.
DestGroupOwnerAccount	String	Alibaba Cloud account of the target security group.
Policy	String	Authorization policy.
NicType	String	Network interface type.
Priority	String	Rule priority.
Direction	String	Inbound or outbound authorization.
Description	String	Rule description.

Name	Type	Description
CreateTime	String	The UTC creation time of the security group rule.

10.33 PublicIpAddressItemType

An array of public IPs in a NAT bandwidth package.

Node name

Depends on the methods.

Subnode

Name	Type	Description
AllocationId	String	The ID of the public IP.
IpAddress	String	The address of the public IP.

10.34 PublicIpAddressSetType

A list of the public IP addresses in a shared bandwidth package.

Node

Depends on the methods.

Subnode

An array comprised of [PublicIpAddressItemType](#).

10.35 RegionType

Type of region information.

Node

Region

Subnode

Name	Type	Description
RegionId	String	Region ID.
LocalName	String	Name of the region.

10.36 RelatedItemType

Task type.

Node

RelatedItem

Subnodes

Name	Type	Description
Name	String	Related item name.
Value	String	Related item value.

10.37 ResourceTypeCountItem

Number of bound resources that attached to a tag.

Node

[TagSetItem](#)

Subnodes

Name	Type	Description
ResourceType	String	Resource type.
Count	String	Number of bound resources that belongs to the specified type.

10.38 SecurityGroupIdSetType

Type of a security group ID.

Node

SecurityGroupIds

Subnodes

Name	Type	Description
SecurityGroupId	String	Security group ID.

10.39 Securitygroupitemtype

Type of a security group set.

Node Name

SecurityGroups

Subnode

Name	Type	Description
SecurityGroupId	String	ID of the security group.
SecurityGroupName	String	Name of the security group.
Description	String	Description.
VpcId	String	ID of the VPC to which the security group belongs.
CreationTime	String	Time of creation. It is represented according to ISO8601 , and UTC time is used. Format: YYYY-MM-DDThh:mmZ.

10.40 SecurityGroupSetType

Type of a security group set.

Node

SecurityGroups

Subnodes

Name	Type	Description
SecurityGroup	SecurityGroupItemType	Security group SecurityGroupItemType.

10.41 ShareGroupType

Type of a shared group.

Node

ShareGroup

Subnode

Name	Type	Description
Group	String	Shared group.

10.42 SnapshotLinkType

A set that consists of snapshot link information.

Node

SnapshotLinks

Subnode

Name	Type	Description
SnapshotLinkId	String	The snapshot chain ID.
RegionId	String	The region to where a snapshot chain belongs.
SourceDiskId	String	The ID of the disk that maintains all the snapshots of a snapshot chain. If the specified disk has been released, the SourceDiskId is still returned.
SourceDiskSize	Integer	The size of a disk, measured in GiB.
TotalSize	Integer	The size of all the snapshots in a snapshot chain, measured in Byte.
TotalCount	Integer	The number of snapshots in a snapshot chain.
CreationTime	String	The moment when the snapshot is created.

10.43 SnapshotType

Data type of snapshot details.

Node name

It depends on the interface.

Subnodes

Name	Type	Description
SnapshotId	String	Snapshot ID.
SnapshotName	String	Display name of the snapshot. It is returned if a display name is specified at the creation.
Description	String	Description information.
Encrypted	Boolean	Whether the specified snapshot is encrypted or not.
Progress	String	Progress of snapshot creation, presented in percentage.
SourceDiskId	String	Source disk ID, which is retained after the source disk of the snapshot is deleted.
SourceDiskSize	Integer	Size of the source disk, measured in GB.
SourceDiskType	String	Source disk attribute. Value range: • System • Data
ProductCode	String	Product code on the image market place.
RetentionDays	Integer	The number of days that an automatic snapshot retains in the console for your instance.
RemainTime	Integer	The remaining time of a snapshot creation task, in seconds.
CreationTime	String	Creation time. Time of creation. It is represented according to ISO8601 , and UTC time is used. Format: YYYY-MM-DDThh:mmZ.
Status	String	The snapshot status. Value range: • progressing

Name	Type	Description
		• accomplished • failed
Usage	String	Whether the snapshots are used to create resources or not. Value range: • image • disk • image_disk • none

10.44 TagSetItem

Returns a specific list of tags.

Node

Determined by the methods.

Subnodes

Name	Type	Description
TagKey	String	Key of a tag.
TagValue	String	Value of a tag.
ResourceTypeCount	Array	Number of resources bound to a tag. Array of ResourceTypeCountItem .

10.45 TaskType

Task type.

Node

TaskSetType

Subnodes

Name	Type	Description
TaskId	String	Task ID.
Action	String	The target method to perform.

Name	Type	Description
TaskStatus	String	Task status. Possible values: - Finished - Processing
SupportCancel	Boolean	Whether a task can be canceled. Optional values: - true - false
CreationTime	String	Task creation time, which follows the ISO8601 standard and uses UTC time. It is in the format of YYYY-MM-DDThh:mmZ.
FinishedTime	String	Task completion time, which follows the ISO8601 standard and uses UTC time. It is in the format of YYYY-MM-DDThh:mmZ.

10.46 VpcAttributesType

The VPC related attributes of an ECS instance.

Node

Depends on the methods.

Subnodes

Name	Type	Description
VpcId	String	ID of the VPC.
VSwitchId	String	ID of the VSwitch.
PrivateIpAddress	IpAddressSetType	Collection of private IP addresses.
NatIpAddress	String	IP address of the Alibaba Cloud product to facilitate interwork between products.

10.47 ZoneType

Type of zone information.

Node Name

Zone

Subnode

Name	Type	Description
ZoneId	String	ID of the zone.
LocalName	String	Name of the zone in the local language.
AvailableResources	AvailableResourcesType	Available resources.
AvailableInstanceTypes	AvailableInstanceTypesType	Instance types allowed.
AvailableResourceCreation	AvailableResourceCreationType	Type of resource that can be created.
AvailableDiskCategories	AvailableDiskCategoriesType	Set of supported disk categories.

10.48 AssociatedPublicIp

This data type is used when you call related APIs of the ENI.

Node

Determined by the methods.

Subnodes

Name	Type	Description
PublicIpAddress	String	Internet IP of an ENI.
AllocationId	String	EIP (Elastic IP) ID of an ENI.

10.49 Link

The VPC link information about a classic network instance.

Node

Links

Subnodes

Name	Type	Description
InstanceId	String	The ID of a classic network instance.
VpcId	String	The ID of a VPC to which the classic network instance is linked.

10.50 NetworkInterfaceSet

This data type is used when you call related APIs of the ENI.

Node

Determined by the methods.

Subnodes

Name	Type	Description
NetworkInterfaceId	String	ENI ID.
Status	String	Status of an ENI.
Type	String	Category of an ENI.
VpcId	String	VPC ID.
VSwitchId	String	ID of the VSwitch that you specify in the VPC.
ZoneId	String	ID of the zone.
AssociatedPublicIp	AssociatedPublicIp	Internet IP of an ENI.
PrivateIpAddress	String	Primary private IP of an ENI.
PrivateIpSet	PrivateIpSet	A data set made up of the information of PrivateIp.
MacAddress	String	MAC address of an ENI.
SecurityGroupIds	SecurityGroupIdsSetType	ID of the security group to which that an ENI belongs.
NetworkInterfaceName	String	Name of an ENI.
Description	String	Description of an ENI.
InstanceId	String	ID of the ECS instance to which an ENI is attached.
CreationTime	String	The time when you create an ENI. It must comply with the

Name	Type	Description
		standard of ISO8601 , and UTC time is a must. Valid format: YYYY-MM-DDThh:mmZ

10.51 NetworkInterfaceType

This data type is used when you call related APIs of the ENI.

Node

Depends on the methods.

Subnode

Name	Type	Description
NetworkInterfaceId	String	ID of an ENI.
PrimaryIpAddress	String	Primary private IP of an ENI.
MacAddress	String	MAC address of an ENI.

10.52 PriceInfoType

The information of latest ECS price, which consists of price and promotion details.

Node

PriceInfo

Subnode

Name	Type	Description
Price	PriceType	Price of the specified resource.
Rules	RulesType	Promotion details.

10.53 PriceType

The price information of a specified resource.

Node Name

Price

Subnode

Name	Type	Description
Currency	String	The unit of currency.
OriginalPrice	Double	The original price.
DiscountPrice	Double	The trade discount.
TradePrice	Double	The trading price, equal to the value of OriginalPrice minus the value of DiscountPrice.

10.54 PrivateIpSet

This data type is used when the private IP of an ENI is queried.

Node

Depends on the methods.

Subnode

Name	Type	Description
PrivateIpAddress	String	Private IP of an ENI.
Primary	Boolean	Whether the private IP of an ENI is the primary private IP or not.
AssociatedPublicIp	AssociatedPublicIp	Public IP of an ENI.

10.55 ReferencingSecurityGroup

The authorization information about a security group.

Node

ReferencingGroups

Subnode

Name	Type	Description
SecurityGroupId	String	The ID of an authorized security group.

Name	Type	Description
AliUid	Long	The ID of an Alibaba Cloud user to whom the security group belongs.

10.56 RulesType

Description

The information of the ECS product promotion details.

Node

Rule.

Subnode

Name	Type	Description
RuleId	Long	The ID of the promotion.
Description	String	The description of the promotion.

10.57 SecurityGroupReference

Information of the security group authorization.

Node

GroupReferences

Subnode

Name	Type	Description
SecurityGroupId	String	The ID of a security group.
ReferencingSecurityGroups	ReferencingSecurityGroup	Other authorization information of the security group.

10.58 SpotPriceType

The price information of a preemptible instance.

Node

SpotPrices

Subnodes

Name	Type	Description
ZoneId	String	ID of the zone to where the preemptible instance belongs.
NetworkType	String	The network type of the preemptible instance.
InstanceType	String	The instance type of the preemptible instance.
IoOptimized	String	Whether or not the preemptible instance is an I/O optimized instance.
SpotPrice	Float	The spot price of the preemptible instance.
OriginPrice	Float	The Pay-As-You-Go price of the instance.
Timestamp	String	The time when the spot price of a preemptible instance is valid. It is in the format of YYYY-MM-DDTHH:MM:SS.