Alibaba Cloud
Elastic Compute Service

API Reference

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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 instructio ns, 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 `cd /d C:/windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *`Instance_ID`*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *`[-all|-t]`*
{} or {a|b}	It indicates that it is a required value, and only one item can be selected.	`swich` *`{stand | slave}`*

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1 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
Region	*Region*	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.
Availability Zone	*Zone*	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.
Instance	*Instance*	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*.
Image	*Image*	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.
Disk	*Disk*	The storage device of instances.
Security group	*Security group*	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.
Snapshot	*Snapshot*	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.
Tag	*Tag*	Consists of a key-value pair. You can assign tags to ECS resources for fast listing and filtering.
IP address	*IP address*	The Internet or intranet IP address of an instance.

2 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 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
ModifyInstanceVpcAttribute	Modifies the attributes of a VPC to which a specified instance is connected.
ModifyInstanceAttribute	Modifies the information of an Instance, such as the name, password, host name, and description of an instance.
ModifyInstanceVncPasswd	Changes the password of management terminal used to connect a specified Instance.
ModifyInstanceAutoReleaseTime	Sets the automatic release time for a specified instance.
ModifyInstanceAutoRenewAttribute	Modifies the information of an Instance, such as the name, password, host name, and description of an instance.
ModifyInstanceSpec	Changes the instance type or modifies the Internet bandwidth of a Pay-As-You-Go instance.

Launch templates

Action	Description
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.
CreateLaunchTemplateVersion	Creates a version based on the specified instance launch template.
DeleteLaunchTemplate	Deletes an instance launch template.
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.
DescribeLaunchTemplates	Queries available instance launch templates.
DescribeLaunchTemplateVersions	Queries instance launch template versions.
ModifyLaunchTemplateDefaultVersion	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
DescribeImageSharePermission	Describes all the authorized users to whom one of your custom image is shared.
ModifyImageAttribute	Modifies the name and description of a custom image.
ModifyImageSharePermission	Shares a custom image to other Alibaba Cloud users.

Snapshots

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

Network

Action	Description
AllocatePublicIpAddress	Assigns an Internet IP address to an instance.
ConvertNatPublicIpToEip	Changes the public IP (NatPublicIp) of a VPC-Connected instance to an Elastic IP (EIP).
AttachClassicLinkVpc	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.
DetachClassicLinkVpc	Unlinks a classic network-connected instance from the VPC.
DescribeBandwidthLimitation	Describes a list of bandwidth resources.
DescribeClassicLinkInstances	Describes one or more of your classic network -connected instances that have established ClassicLink with a VPC.
ModifyInstanceNetworkSpec	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
CreateSecurityGroup	Creates a security group.
AuthorizeSecurityGroup	Adds an inbound rule for a security group.
AuthorizeSecurityGroupEgress	Adds an outbound rule for a security group.
RevokeSecurityGroup	Deletes an inbound rule from a security group.
RevokeSecurityGroupEgress	Deletes an outbound rule from a security group .
JoinSecurityGroup	Adds an instance to a specified security group.
LeaveSecurityGroup	Removes an instance from a specified security group.
DeleteSecurityGroup	Deletes a security group.
DescribeSecurityGroupAttribute	Describes your security groups.
DescribeSecurityGroups	Describes the basic information about your security groups, such as the security group ID and description.
DescribeSecurityGroupReferences	Describes whether a specified security group has been authorized by other security group or not.

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

SSH key pair

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

ENI

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

Monitoring

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

Tags

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

Cloud assistant

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

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

Others

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

Regions and zones

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

3 Getting started

3.1 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.

3.2 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.

3.3 Common parameters

Both request and response have common parameters, they appear in every round of API action..

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* . For more information, see *Create an AccessKey*.
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 network replay attacks. Different random numbers must be used for different requests.
Timestamp	String	Yes	Request time stamp. The time format follows the *ISO8601* standard, and the UTC time is used. The format is 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 API request, whether the request is successful or not.

3.4 Digital 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 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 *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 `OLeaidS1JvxuMvnyHOwuJ+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=OLeaidS1JvxuMvnyHOwuJ%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=OLeaidS1JvxuMvnyHOwu
```

```
J%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 Unsupporte
dEncodingException {
  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 `OLeaidS1JvxuMvnyHOwuJ%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=OLeaidS1JvxuMvnyHOwu
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*.

3.5 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 indention 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, *common error codes*, or *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-B6A5-74Bxxxxxxxxx</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-B6A5-74Bxxxxxxxxx", /* 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 required 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 AccessKey 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
MissingParameter	400	The input parameter `AccessKeyId` that is mandatory for processing this request is not supplied

Error code	HTTP status code	Error code
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 AccessKey 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.
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.

Error code	HTTP status code	Error code
InvalidIdempotencePa rameter.Mismatch	403	The specified parameters are different from before.
InvalidParameter. OwnerAccount	403	OwnerAccount is Invalid.
InvalidParameter .ResourceOw nerAccount	403	ResourceOwnerAccount is Invalid.
LastTokenP rocessing	403	The last token request is processing.
MissingPar ameter	403	The input parameter OwnerId,OwnerAccount that is mandatory for processing this request is not supplied.
RealNameAu thenticationError	403	Your account has not passed the real-name authentica tion yet.
Unsupporte dHTTPMethod	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.
InvalidSec urityGroupId. 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.
InternalError	500	The request processing has failed due to some unknown error, exception or failure.

Error code	HTTP status code	Error code
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.

4 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 authentica tion 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/$vpcId
CreateKeyPair	acs:ecs:$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/$volumeId
DeleteAutoSnapshotPolicy	acs:ecs:*:$accountid:snapshot/*
DeleteDisk	acs:ecs:$regionid:$accountid:disk/$diskId
DeleteImage	acs:ecs:$regionid:$accountid:image/$imageNo
DeleteInstance	acs:ecs:$regionid:$accountid:instance/$instanceId
DeleteKeyPairs	acs:ecs:$regionid:$accountid:keypair/$keyPairName
DeleteSecurityGroup	acs:ecs:$regionid:$accountid:securitygroup/$groupNo
DeleteSnapshot	acs:ecs:$regionid:$accountid:snapshot/$snapshotId
DescribeClassicLinkInstances	acs:ecs:$regionid:$accountid:instance/*
DescribeDiskMonitorData	acs:ecs:$regionid:$accountid:disk/$diskId
DescribeDisks	• acs:ecs:$regionid:$accountid:disk/$diskId • acs:ecs:$regionid:$accountid:disk/*
DescribeImages	• acs:ecs:$regionid:$accountid:image/$imageNo • acs:ecs:$regionid:$accountid:image/*
DescribeInstanceAttribute	acs:ecs:$regionid:$accountid:instance/$instanceId
DescribeInstanceMonitorData	acs:ecs:$regionid:$accountid:instance/$instanceId
DescribeInstances	• acs:ecs:$regionid:$accountid:instance/$instanceId • acs:ecs:$regionid:$accountid:instance/*
DescribeInstanceStatus	acs:ecs:$regionid:$accountid:instance/*
DescribeInstanceVncPasswd	acs:ecs:$regionid:$accountid:instance/$instanceId
DescribeInstanceVncUrl	acs:ecs:$regionid:$accountid:instance/$instanceId

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

5 Instances

5.1 RunInstances

Creates a specified number of Pay-As-You-Go instances.

Description

You can call ***DescribeAvailableResource*** to view the available resources in a specified region.

We recommend that you maintain a sufficient balance in the linked credit card or PayPal account to complete the payment or preauthorization. For more information, see *Pricing overview*.

When you use this operation, consider the following:

- You can create a maximum number of 100 instances each time.
- You can set the release time for the instances by specifying the parameter `AutoReleaseTime` in your request.
- You can call ***DescribeInstances*** to check the status of your instance.
- Make sure you have created a security group. For more information, see ***CreateSecurityGroup***.
- After a successful request, the instances that are created by you start automatically. An instance is ready to use when it is in the `Running` status.
- Before creating a VPC-Connected instance, you must *Create a VPC*. We can create a default VPC and VSwitch for you if needed.
- Unlike ***CreateInstance***, instances created by calling the `RunInstances` method have Internet IPs allocated if you set the value of `InternetMaxBandwidthOut` greater than 0.
- If invalid parameters or stock shortage happens, the RunInstances action fails. For troublesho oting, see error codes.

Request parameters

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

Name	Type	Required	Description
ZoneId	String	No	The zone ID that is available in the specified region. You can call **`DescribeZones`** to obtain the latest zone list. Default value: null. Null indicates it is randomly chosen by Alibaba Cloud ECS.
ImageId	String	No	The image ID. You can call **`DescribeImages`** Describes your available image. `ImageId` is necessary and required when neither `LaunchTemplateId` nor `LaunchTemplateName` are specified.
InstanceType	String	No	Instance type. For more information about available value, see *Instance type families* or call **`DescribeInstanceTypes`** to query the latest instance type list. When neither `LaunchTemplateId` nor `LaunchTemplateName` are specified to choose a launch template, the `InstanceType` is required.
SecurityGroupId	String	No	The security group to which the instances belongs. Mutual access is allowed between instances in the same security group in the intranet. The maximum number of instances in one security group is 1,000. **Note:** **`SecurityGroupId`** determines the network type of the instance. For example, if the security group is VPC-Connected, your instances are VPC-Connected also, consequently, **`VSwitch`** is required. When neither `LaunchTemplateId` nor `LaunchTemplateName` are specified to choose a launch template, the `SecurityGroupId` is required.
LaunchTemplateId	String	No	The launch template ID. For more information, call `DescribeLaunchTemplates`. Either the `LaunchTemplateId` or `LaunchTemplateName` must be specified to choose a launch template.

Name	Type	Required	Description
LaunchTemplateName	String	No	The launch template name. Either the `LaunchTemplateId` or `LaunchTemplateName` must be specified to determine the template.
LaunchTemplateVersion	String	No	The launch template version. If you specify `LaunchTemplateId` or `LaunchTemplateName` but no template version number is specified, default version is used.
InternetChargeType	String	No	The billing method of the network bandwidth. Optional values: • PayByTraffic: You are billed based on the traffic usage. Default value: PayByTraffic
IoOptimized	String	No	Whether it is an I/O-optimized instance or not. Options: • none • optimized If you set `InstanceType` as one of the *Phased-out instance types*, the default value is none. Otherwise, the default value is `optimized`.
SystemDisk.Category	String	No	The category of the system disk. Optional values: • Cloud: Basic cloud disk. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: Cloud SSD. • ephemeral_ssd: Ephemeral SSD. If you set `InstanceType` as one of the *phased out instance types* and set the `IoOptimized` to `none`, the default value is cloud. Otherwise, the default value is cloud_efficiency.
SystemDisk.Size	String	No	The size of the system disk, in GiB. Value range: [20, 500]. It must be equal to or greater than the max{20, the size of the specified image}. Default value: max{40, the size of the specified image}.
SystemDisk.DiskName	String	No	System disk name. • The instance name is a string of 2 to 128 English letters and special characters. It can contain

Name	Type	Required	Description
			digits, underscores (_), colons (:), or hyphens (-). It must begin with an English or a Chinese character. • It cannot begin with `http://` or `https://`.
SystemDisk.Description	String	No	Description of a system disk. • It can be [2, 256] characters in length. • It cannot begin with `http://` or `https://`.
DataDisk.n.Category	String	No	Category of the data disk n. The valid range of `n` is [1, 16]. Optional values: • Cloud: Basic cloud disk. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: Cloud SSD. • ephemeral_ssd: Ephemeral SSD. Default value: cloud.
DataDisk.n.Size	Integer	No	The capacity size of the N data disk in GiB and the value range of `n` is [1, 16]. Value range: • cloud: [5, 2000] • cloud_efficiency: [20, 32768] • cloud_ssd: [20, 32768] • ephemeral_ssd: [5, 800] When `SnapshotId` is specified, the value must be equal to or greater than the specific snapshot.
DataDisk.n.SnapshotId	String	No	Snapshot is used to create the data disk. The valid range of `n` is [1, 16]. After the `DataDisk.n.SnapshotId` is specified, `DataDisk.n.Size` is ignored, and the size of the new disk is the size of the specified snapshot. If the snapshot was created on or before July 15, 2013, your request is denied, and an error InvalidSnapshot.TooOld is returned.
DataDisk.n.Encrypted	String	No	Whether the data disk is encrypted or not. The valid range of `n` is [1, 16]. Options: • true: Encrypted. • false: Not encrypted. Default value: false.

Name	Type	Required	Description
DataDisk.n.DiskName	String	No	The data disk name. The valid range of `n` is [1, 16]. • It can be [2, 128] characters in length. It must begin with an English letter or Chinese character and can contain digits, colons (:), underscores (_), or hyphens (-). • It cannot start with "http://" or "https://".
DataDisk.n.Description	String	No	Description of a data disk. The valid range of `n` is [1, 16]. • It can be [2, 256] characters in length. • It cannot start with "http://" or "https://".
DataDisk.n.DeleteWithInstance	Boolean	No	Whether a data disk is released along with the instance or not. The valid range of `n` is [1, 16]. Options: • true: The disk is released with the instance. • false: The disk is not released with the instance. Default value: true. This parameter is valid only when and the value of parameter `DataDisk.n.Category` is `cloud`, `cloud_efficiency`, or `cloud_ssd`. Otherwise, an error is returned.
HpcClusterId	String	No	The cluster ID to which the instance belongs.
VSwitchId	String	No	VSwitch ID. It must be specified when you create VPC-Connected instances.
PrivateIpAddress	String	No	Private IP address of an ECS instance. PrivateIpAddress depends on `VSwitchId` and cannot be specified separately.
InternetMaxBandwidthIn	Integer	No	The maximum inbound bandwidth from Internet network, measured in Mbit/s. Value range: [1, 200]. Default value: 200.
InternetMaxBandwidthOut	Integer	No	Maximum outbound bandwidth to the Internet in Mbit/s. Value range: • [0, 100]. Default value: 0.
InstanceName	String	No	The instance name. • The instance name is a string of 2 to 128 English letters and special characters. It must begin with

Name	Type	Required	Description
			an English or a Chinese character. It can contain digits, periods (.), colons (:), underscores (_), and hyphens (-) • but cannot begin with http:// or https://. If this parameter is not specified, the default value is the InstanceId of the instance. The default value is the `InstanceId` of the instance.
HostName	String	No	Host name of the ECS instance. • It cannot start or end with a period (.) or a hyphen (-) and it cannot have two or more consecutive periods (.) or hyphens (-). • For **Windows**: The host name can be [2, 15] characters in length. It can contain uppercase or lowercase letters, digits, periods (.), and hyphens (-). It cannot be only digits. • For other OSs, such as **Linux**: The host name can be [2, 128] characters in length. It can be segments separated by periods (.). Uppercase or lowercase letters, digits, and hyphens (-) are allowed.
UniqueSuffix	Boolean	No	Whether or not add sequential suffix for `HostName` and `InstanceName`. The identify starts from 001 but cannot exceed 999. For example: `LocalHost001`, `LocalHost002` and `MyInstance001`, `MyInstance002`. Default value: false.
Description	String	No	Description of an ECS instance. • It can be [2, 256] characters in length. • It cannot begin with "http://" or "https://".
Password	String	No	Password of the ECS instance. • It can be [8, 30] characters in length. It must contain uppercase and lowercase letters, digits. • The following special characters are allowed: @ # $ % ^ & * - + = | { } [ ] : ; ‘ < > , . ? / If you specify a value for parameter `Password`, use HTTPS to call the API to avoid data breach.
PasswordInherit	Boolean	No	Whether to use the password pre-configured in the image you select or not. When PasswordInherit is

Name	Type	Required	Description
			specified, the `Password` must be null. For a secure access, make sure that the selected image has password configured.
Amount	String	No	The specified number of instances you want to create. Value range: [1, 100]. Default value: 1.
AutoReleaseTime	String	No	The automatic release time for the specified instances. The time is presented using the *ISO8601* standard and in UTC time. The format is YYYY-MM-DDTHH:mm:ssZ. • If the seconds (ss) place is not 00, it is automatically set to start from the current minute (mm). • It must be at least half an hour later than the current time. • It must be less than three years from the current time.
UserData	String	No	The user data of an instance. It must be encoded in Base64 format. The maximum size of the user data is 16 KB.
KeyPairName	String	No	The name of the key pair. • For **Windows** instances, ignore this parameter. Default value: null. The `Password` is still effective even the KeyPairName is used. • The username and password authentication method is disabled if a value is set for parameter KeyPairName for a **Linux instance**.
RamRoleName	String	No	Instance RAM role name. The name is provided and maintained by *RAM* and can be queried using *ListRoles*. For more information, see ***CreateRole*** and *ListRoles*.
SecurityEnhancementStrategy	String	No	Whether or not to enable security enhancement. Options: • Active: Enables the security enhancement feature and installs a free network security software. Only applicable to the Alibaba Cloud official images.

Name	Type	Required	Description
			• Deactive: Disables the security enhancement feature. No network security software is installed . Applicable to all kinds of images.
Tag.n.Key	String	No	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It supports up to 64 characters. It cannot start with " aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	No	The value of a tag of which n is from 1 to 20. It can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "http://", acs:, or "https://".
SpotStrategy	String	No	Sets an expected spot price if you are creating preemptible instances. It takes effect only when parameter `InstanceChargeType` is `PostPaid`. Options: • NoSpot: A normal Pay-As-You-Go instance. • SpotWithPriceLimit: Sets the price threshold for a preemptible instance. • SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance. Default value: NoSpot.
SpotPriceLimit	Float	No	The hourly price threshold for a preemptible instance, and it takes effect only when parameter `SpotStrategy` is `SpotWithPriceLimit`. Three decimal places are allowed at most.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
InstanceIdSets	InstanceIdSet	The list of instance IDs.

InstanceIdSet

Name	Type	Description
InstanceId	String	ID of the ECS instance. It is a unique identifier of the ECS instance.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=RunInstances
&RegionId=cn-hangzhou
&InstanceType=ecs.cm4.6xlarge
&SecurityGroupId=sg-securitygroupid
&Amount=3
&<Common Request Parameters>
```

Response example

XML format

```
<RunInstancesResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
    <InstanceIdSets>
        <InstanceIdSet>
            <InstanceId>i-instanceid1</InstanceId>
            <InstanceId>i-instanceid2</InstanceId>
            <InstanceId>i-instanceid3</InstanceId>
        </InstanceIdSet>
    </InstanceIdSets>
</RunInstancesResponse>
```

JSON format

```
{
    "InstanceIdSets": {
        "InstanceIdSet": [
            "i-instanceid1",
            "i-instanceid2",
            "i-instanceid3"
        ]
    },
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FE73368"
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
Account.Arrearage	Your account has an outstanding payment.	400	Your account has an overdue payment.

Error code	Error message	HTTP status code	Description
EncryptedOption.Conflict	Encryption value of disk and snapshot conflict.	400	Both the specified data disk and the specified snapshot must be encrypted or not at the same time.
IncorrectVSwitchStatus	The current status of virtual switch does not support this operation.	400	The status of the specified VSwitch does not support the operation.
InstanceDiskCategoryLimitExceed	The specified DataDisk.n.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category.	400	The specified DataDisk.n.Size exceeds the maximum size of the specified disk category.
InstanceDiskNumber.LimitExceed	The total number of specified disk in an instance exceeds.	400	The number of data disks attached to one ECS exceeds 16.
InvalidAutoRenewPeriod.ValueNotSupported	The specified autoRenewPeriod is not valid.	400	The specified `AutoRenewPeriod` is invalid.
InvalidDataDiskSize.ValueNotSupported	The specified DataDisk.n.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category.	400	The specified `DataDisk.n.Size` is invalid or exceeds the maximum size of the specified disk category.
InvalidDescription.Malformed	The specified parameter Description is not valid.	400	The specified Description is invalid.
InvalidDiskCategory.ValueNotSupported	The specified parameter DiskCategory is not valid.	400	The specified DiskCategory is invalid.
InvalidDiskDescription.Malformed	The specified parameter SystemDisk.DiskDescription or DataDisk.n.Description is not valid.	400	Either the specified `SystemDisk.DiskDescription` or `DataDisk.n.`

Error code	Error message	HTTP status code	Description
			`Description` is invalid.
InvalidDiskName.Malformed	The specified parameter SystemDisk.DiskName or DataDisk.n.DiskName is not valid.	400	The specified `SystemDisk.DiskName` or `DataDisk.n.DiskName` is invalid.
InvalidHostName.Malformed	The specified parameter HostName is not valid.	400	The specified `HostName` is invalid.
InvalidInstanceName.Malformed	The specified parameter InstanceName is not valid.	400	The specified `InstanceName` is invalid.
InvalidInstanceType.ValueNotSupported	The specified InstanceType beyond the permitted range.	400	The specified `InstanceType` is invalid or does not exist.
InvalidInstanceType.ValueUnauthorized	The specified InstanceType is not authorized.	400	The specified `InstanceType` is unauthorized.
InvalidInternetChargeType.ValueNotSupported	The specified InternetChargeType is not valid.	400	The specified `InternetChargeType` does not exist.
InvalidIoOptimizedValue.ValueNotSupported	IoOptimized value not supported.	400	The specified `IoOptimized` is invalid or does not exist.
InvalidNetworkType.Mismatch	Specified parameter InternetMaxBandwidthIn or InternetMaxBandwidthOut conflict with instance network type.	400	Either the specified `InternetMaxBandwidthIn` or `InternetMaxBandwidthOut` does not match the network type of the instance.

Error code	Error message	HTTP status code	Description
InvalidNetworkType.Mismatch	Specified parameter InternetChargeType conflict with instance network type.	400	The specified `InternetChargeType` is invalid for the network type of the instance.
InvalidParameter	The specified parameter InternetMaxBandwidthOut is not valid.	400	The specified `InternetMaxBandwidthOut` is invalid.
InvalidParameter	The specified instance bandwidth is not valid.	400	The specified instance bandwidth is invalid.
InvalidParameter	The specified parameter Amount is not valid.	400	The specified `Amount` is invalid.
InvalidParameter.Bandwidth	The specified parameter Bandwidth is not valid.	400	The specified instance bandwidth is invalid.
InvalidParameter.Conflict	The specified image does not support the specified instance type.	400	You cannot use the specified image to create an ECS instance of the specified instance type.
InvalidParameter.Encrypted.KmsNotEnabled	The encrypted disk need enable KMS.	400	You have not enabled the Key Management Service (KMS) service.
InvalidParameter.EncryptedIllegal	The value of parameter Encrypted is illegal.	400	The specified `DataDisk.n.Encrypted` is invalid.
InvalidParameter.EncryptedNotSupported	Encrypted disk is not support in this region.	400	You cannot encrypt the data disk in the specified region.
InvalidParameter.EncryptedNotSupported	Corresponding data disk category does not support encryption.	400	You cannot encrypt the specified DataDisk.n.Category.
InvalidParameter.Mismatch	Specified security group and virtual switch are not in the same VPC.	400	Both the specified security group and the specified VSwitch

Error code	Error message	HTTP status code	Description
			must be in the same VPC.
InvalidParameter.Mismatch	Specified virtual switch is not in the specified zone.	400	The specified VSwitch is not in the specified zone.
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.
InvalidSnapshotId.BasedSnapshotTooOld	The specified snapshot is created before 2013-07-15.	400	The specified DataDisk.n.SnapshotId must be created after July 15, 2013.
InvalidSpotAliUid	The specified UID is not authorized to use SPOT instance.	400	You are not authorized to create preemptible instances.
InvalidSpotAuthorized	The specified Spot param is unauthorized.	400	Your account is not authorized to use preemptible instances.
InvalidSpotPrepaid	The specified Spot type is not support PrePay Instance.	400	Only Pay-As-You-Go billing method is allowed for preemptible instances.
InvalidSpotPriceLimit	The specified SpotPriceLimitis not valid.	400	The parameter `SpotPriceLimit` is invalid.
InvalidSpotPriceLimit.LowerThanPublicPrice	The specified parameter spotPriceLimit can’t be lower than current public price.	400	The specified `SpotPriceLimit` must be equal to or greater than the official price of the specified instance.

Error code	Error message	HTTP status code	Description
InvalidSpotStrategy	The specified SpotStrategy is not valid.	400	The parameter `SpotStrategy` is invalid.
InvalidSystemDiskCategory.ValueNotSupported	The specified parameter SystemDisk.Category is not valid.	400	The specified `SystemDisk.Category` is invalid.
InvalidUserData.NotSupported	The specified parameter UserData only support the vpc and IoOptimized Instance.	400	You can only specify `UserData` for I/O optimized VPC-Connected instances.
InvalidUserData.SizeExceeded	The specified parameter UserData exceeds the size.	400	The size of the `UserData` before the Base64 encoding cannot exceeded 16 KB.
InvalidHpcClusterId.NotFound	The specified HpcClusterId is not found.	400	The specified `HpcClusterId` does not exist.
InvalidHpcClusterId.Creating	The specified HpcClusterId is creating.	400	The specified `HpcClusterId` is being created. Please try again later.
InvalidHpcClusterId.Unnecessary	The specified HpcClusterId is unnecessary.	400	You can specify the ClusterId only for some `InstanceType`.
InvalidVSwitchId.Necessary	The HpcClusterId is necessary.	400	To choose cluster for the specified `InstanceType`, you must specify the `HpcClusterId`.
MissingParameter	The input parameter VSwitchId that is mandatory for processing this request is not supplied.	400	The `VSwitchId` parameter is required.
QuotaExceed.AfterpayInstance	The maximum number of Pay-As-You-Go instances is exceeded.	400	You have exceeded the maximum number of Pay-As-You-Go

Error code	Error message	HTTP status code	Description
			instances. For more information, see *Limits*.
QuotaExceeded	Living instances quota exceeded in this VPC.	400	The number of instances in the specified VPC has reached the upper limit .
ResourceNotAvailable	Resource you requested is not available in this region or zone.	400	The resource you requested is unavailable in the specified RegionId or ZoneId. Please try again in other regions or zones.
CategoryNotSupported	The specified zone does not offer the specified disk category.	403	You cannot create a disk of the specified disk category in the specified zone.
DeleteWithInstance.Conflict	The specified disk is not a portable disk and cannot be set to DeleteWithInstance attribute.	403	You cannot specify `DeleteWithInstance` to true for the specified disk.
DependencyViolation.WindowsInstance	The instance creating is window, cannot use ssh key pair to login.	403	Parameter KeyPairName is valid only for Linux instances.
Forbidden	User not authorized to operate on the specified resource.	403	You are not authorized to create the specified resource.
ImageNotSubscribed	The specified image has not be subscribed.	403	The specified image is from the marketplace . Please subscribe it in advance.
ImageNotSupportInstanceType	The specified image don’t support the InstanceType instance.	403	The specified image does not support the instance type.

Error code	Error message	HTTP status code	Description
ImageRemovedInMarket	The specified market image is not available, or the specified custom image 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.	403	The specified image on the marketplace is unavailable. Or the `product-code` in the marketplace of the specified custom image has been removed.
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.
InstanceDiskNumLimitExceed	The number of specified disk in an instance exceeds.	403	The number of data disks attached to one ECS instance must be less than 16.
InvalidDiskCategory.Mismatch	The specified disk categories combination is not supported.	403	The combination of specified disk categories is not supported.
InvalidDiskCategory.NotSupported	The specified disk category is not support the specified instance type.	403	The specified disk category is not supported by the specified instance type.
InvalidDiskSize.TooSmall	Specified disk size is less than the size of snapshot.	403	The capacity of the specified disk must be equal to or greater than the size of the specified snapshot.
InvalidInstanceType.ZoneNotSupported	The specified zone does not support this InstanceType.	403	The specified InstanceType cannot be created in the specified zone.
InvalidNetworkType.	Ram role cannot be attached to instances of Classic network type.	403	RAM roles cannot be attached to classic network instances.

Error code	Error message	HTTP status code	Description
MismatchRamRole			
InvalidPayMethod	The specified billing method is not valid.	403	The specified billing method does not exist.
InvalidResourceType.NotSupported	This resource type is not supported; please try other resource types.	403	The specified InstanceType is unavailable. Please try other instance types.
InnerServiceFailed	The request processing has failed due to some inner service error.	403	An internal server error.
InvalidSnapshotId.NotDataDiskSnapshot	The specified snapshot is system disk snapshot.	403	A data disk cannot be created from the system disk snapshot.
InvalidSnapshotId.NotReady	The specified snapshot has not completed yet.	403	The snapshot has not been completed yet.
InvalidSystemDiskCategory.ValueUnauthorized	The disk category is not authorized.	403	You are not authorized to create a disk of the specified category.
InvalidUser.PassRoleForbidden	The RAM user does not have the privilege to pass a role.	403	A RAM user must be *granted* with a pass role permission before he or she specify RamRoleName for new ECS instances.
InvalidUserData.Forbidden	User not authorized to input the parameter UserData, please apply for permission UserData.	403	You are not authorized to configure the user data.
InvalidVSwitchId.NotFound	The VSwitchId provided does not exist in our records.	403	The specified `VSwitchId` does not exist.
IoOptimized.NotSupported	The specified image is not support IoOptimized Instance.	403	The specified image does not support the I/O optimized instances.

Error code	Error message	HTTP status code	Description
IoOptimized.NotSupported	Vpc is not support IoOptimized instance.	403	I/O optimized instances are not supported in VPC.
OperationDenied	The specified snapshot is not allowed to create disk.	403	The snapshot of the specified disk is not allowed to create a disk, or the snapshot is not allowed to create a disk.
OperationDenied	The creation of Instance to the specified Zone is not allowed.	403	An instance cannot be created in the specified zone. Or the specified zone is not in the specified region.
OperationDenied	The specified Image is disabled or is deleted.	403	The specified image is unavailable or does not exist.
OperationDenied	Sales of this resource are temporarily suspended in the specified region; please try again later.	403	The specified resource is out of stock. Please try other regions and zones.
OperationDenied	The capacity of snapshot exceeds the size limit of the specified disk category or the specified category is not authorized.	403	The specified `DataDisk.n.Size` is invalid. Or the maximum capacity of the specified DataDisk.n.Size has exceeded. Or you are not allowed to create a disk of the specified category.
OperationDenied	The type of the disk does not support the operation.	403	The specified disk type does not support this operation.
OperationDenied.NoStock	Sales of this resource are temporarily suspended in the specified region; please try again later.	403	The specified instance type is out of stock. Please try other instance types in the

Error code	Error message	HTTP status code	Description
			region or try other regions and zones.
QuotaExceed.BuyImage	The specified image is from the image market, You have not bought it or your quota has been exceeded.	403	The specified image is from the marketplace. You must purchase it in advance. Or the image is out of stock in the specified region. For more information, see *Limits*.
QuotaExceed.PortableCloudDisk	The quota of portable cloud disk exceeds.	403	The number of disks that can be attached to an instance has exceeded 16.
RegionUnauthorized	There is no authority to create instance in the specified region.	403	You are not authorized to use the specified region.
SecurityGroupInstanceLimitExceed	The maximum number of instances in a security group is exceeded.	403	The maximum number of instances in the specified security group has exceeded.
Zone.NotOnSale	The specified zone is not available for purchase.	403	The specified zone is unavailable for creating instance. You can try again in other regions or zones. Alternatively, the VSwitch you choose cannot be used in the specified zone.
Zone.NotOpen	The specified zone is not granted to you to buy resources yet.	403	You are not authorized to create instances in the specified zone.
ZoneId.NotFound	The specified zone does not exists.	403	The specified ZoneId does not exist.

Error code	Error message	HTTP status code	Description
Dependency Violation. IoOptimized	The specified InstanceType must be IoOptimized instance.	404	Only I/O optimized instances are allowed for the specified instance type.
HOSTNAME_ILLEGAL	hostname is not valid.	404	The specified `HostName` is invalid.
InvalidDataDiskSnapshotId. NotFound	The specified parameter DataDisk.n. SnapshotId is not valid.	404	The specified `DataDisk.n. SnapshotId` does not exist.
InvalidImageId. NotFound	The specified ImageId does not exist.	404	The specified ImageId does not exist.
InvalidInstanceChargeType .NotFound	The InstanceChargeType does not exist in our records.	404	The specified `InstanceChargeType` does not exist.
InvalidKeyPairName. NotFound	The specified KeyPairName does not exist in our records.	404	The specified `KeyPairName` does not exist.
InvalidRamRole. NotFound	The specified RamRoleName does not exist.	404	The specified `RamRoleName` does not exist.
InvalidRegionId. NotFound	The specified RegionId does not exist .	404	The specified RegionId does not exist.
InvalidSecurityGroupId	The specified SecurityGroupId is invalid or does not exist.	404	The specified `SecurityGroupId` does not exist. Or you are not authorized to use the specified SecurityGroupId.
InvalidSystemDiskSize	The specified parameter SystemDisk .Size is invalid.	404	The specified `SystemDisk.Size` is invalid.
InvalidSystemDiskSize	The specified parameter SystemDisk. Size is less than the image size.	404	The value of specified `SystemDisk.Size`

Error code	Error message	HTTP status code	Description
.LessThanImageSize			must be greater than the image size.
InvalidSystemDiskSize.LessThanMinSize	The specified parameter SystemDisk.Size is less than the min size.	404	The value of specified `SystemDisk.Size` must be less than the minimum capacity of the system disk.
InvalidSystemDiskSize.MoreThanMaxSize	The specified parameter SystemDisk.Size is more than the max size.	404	The value of specified `SystemDisk.Size` exceeds the maximum capacity of the system disk.
InvalidVSwitchId.NotFound	Specified virtual switch does not exist.	404	The specified VSwitch does not exist.
InvalidZoneId.NotFound	The specified ZoneId does not exist.	404	The specified ZoneId does not exist.
IoOptimized.NotSupported	The specified InstanceType is not support IoOptimized instance.	404	The instances of the specified instance type are not I/O optimized.
OperationDenied	Another Instance is being created.	404	Another instance is being created. Please try again later.
PaymentMethodNotFound	No billing method has been registered on the account.	404	No payment method is registered for your account.
InternalError	The request processing has failed due to some unknown error,exception or failure.	500	Internal error. Please try again later.

5.2 CreateInstance

Create an ECS instance.

Description

Before creating an instance, you can call ***`DescribeAvailableResource`*** to view the available resources in a specified region.

You are billed when you launch ECS services, so make sure that you understand the billing methods of ECS instances (`InstanceChargeType`). And, you must maintain a sufficient balance in your linked credit card or PayPal account to complete the payment or preauthorization. For more information, see *Subscription* (`PrePaid`) and *Pay-As-You-Go* (`PostPaid`). For a subscribed (`PrePaid`) instance, your available coupons are the first payment options by default.

When you call this interface, consider the following:

Instance type

- When you create an instance, you can choose an I/O optimized instance.
- Once an instance is created with ephemeral SSDs, the instance type cannot be changed after the instance is created.

Image

When you create an ECS instance, you must select an image for the system disk configuration. After an instance is created, the instance system disk becomes a clone of that image.

- If the instance memory is 512 MB, Windows OS is not supported.
- If the instance memory is 4 GB or larger, a 32-bit OS is not supported.

Network

- To create an instance for a VPC network, you must specify the VPC network and a VSwitch when creating the instance. One instance can only belong to one VSwitch.
- If a `VSwitchId` is specified for creating an instance, `SecurityGroupId` and `VSwitchId` must belong to one VPC.
- If `VSwitchId` and `PrivateIpAddress` are specified at the same time, `PrivateIpAddress` must be within the CidrBlock of the VSwitch.
- `PrivateIpAddress` depends on `VSwitchId` and you must specify the VSwitch when you modify the `PrivateIpAddress` of your instance.
- You can call ***`AllocatePublicIpAddress`*** to assign a public IP address.
- When you create an instance, `InternetChargeType` and `InternetMaxBandwidthOut` determine the bandwidth costs. `InternetMaxBandwidthIn` is not related to billing, and the inbound data traffic for the instance is free.
- The relationship between `InternetChargeType` and `InternetMaxBandwidthOut` is shown in the following table.

Parameter	InternetChargeType	InternetMaxBandwidthOut
Values	`PayByTraffic`	You are billed according to actual traffic usage.

Security groups

- The security group must be created in advance by using the ***CreateSecurityGroup*** interface.
- You can specify the security group when creating the instance and change the instance security group by using the ***ModifyInstanceAttribute*** interface.
- Mutual access is allowed between instances in the same security group in the intranet. By default, firewalls are deployed between security groups, and mutual access between security groups is disabled. However, security group firewall permissions can be set through security group authorization (by using the interface for granting security group permissions). For more information, see ***AuthorizeSecurityGroup*** and ***AuthorizeSecurityGroupEgress***.
- The maximum number of instances in one security group is 1,000. If the security group exceeds this limit, an error message is displayed.

Block Storage

- The maximum capacity of cloud disks varies according to disk categories:
  - A single basic cloud disk (`cloud`) cannot exceed 2,000 GB.
  - A single ultra cloud disk (`cloud_efficiency`) cannot exceed 32 TB (32,768 GiB).
  - A single SSD cloud disk (`cloud_ssd`) cannot exceed 32 TB (32,768 GiB).
  - A single ephemeral SSD (`ephemeral_ssd`) cannot exceed 800 GB.
- ECS allocates a system disk of an appropriate size for the instance based on the the size of the specified image}. The available disk categories for system disk are basic cloud disk (`cloud`), ultra cloud disk (`cloud_efficiency`), SSD cloud disk (`cloud_ssd`), and ephemeral SSD disk (`ephemeral_ssd`).
- You must be authorized to create ephemeral SSD disk (ephemeral_ssd). By default, new users are not authorized.
- When an I/O optimized instance is selected, the system disk can choose only ultra cloud disk (`cloud_efficiency`) or SSD cloud disk (`cloud_ssd`).
- A maximum of 16 data disks can be added to one instance. By default, device names of data disks are allocated in order, starting from /dev/xvdb to /dev/xvdz. If you choose ephemeral SSD (`ephemeral_ssd`) as the data disks of an instance, the system disk must be ephemeral

SSD also. The total ephemeral SSD capacity of an instance, excluding the system disk, cannot exceed 1 TiB (1,024 GiB).

- ECS does not allow users to separately create or add an ephemeral SSD. Therefore, the ephemeral SSD must be specified during instance creation. For more information of disk category and size limits, see *Instance type families*.

User data

User data is provided by ECS for you to customize the startup behaviors of an ECS instance and to pass data into an ECS instance. UserData is encoded in Base64 format. User data transmission is not encrypted. We recommend that you do not contain confidential information, such as passwords or private keys, in plaintext.

Others

When you call API in the Alibaba Cloud CLI and SDK, remove the period (.) from the request parameters that contain periods (.), such as `SystemDisk.Category`, `SystemDisk.Size`, `SystemDisk.Description`, `DataDisk.n.Size`, `DataDisk.n.Category`, `DataDisk.n.SnapshotId`, `DataDisk.n.DiskName`, `DataDisk.n.Description`, `DataDisk.n.DeleteWithInstance`.

For example, *CLI* and *SDK*, use `SystemDiskCategory` instead of `SystemDisk.Category`.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: CreateInstance.
RegionId	String	Yes	Region ID of an instance. For more information, call ***DescribeRegions*** to obtain the latest region list.
ImageId	String	Yes	ID of an image file. An image is a running environment template for ECS instances. If you want to select image from the Alibaba Cloud marketplace, you can view the ImageId on the related image details page.
InstanceType	String	Yes	Instance type. For more information, see *Instance Type Family*, or call ***DescribeInstanceTypes*** to view the latest instance type list.
SecurityGroupId	String	Yes	ID of the security group to which an ECS instance belongs. A security group is a firewall group that manages instances in the same region with the same security requirements and mutual trust.

Name	Type	Required	Description
ZoneId	String	No	ID of a zone to which an instance belongs. If it is null , a zone is selected by the system. Default value: null.
InstanceName	String	No	Name of an ECS instance. • It can contain [2, 128] characters in length, must begin with an English or Chinese character, and can contain digits, periods (.), colons (:), underscores (_), and hyphens (-). • The instance name is displayed in the ECS console. • If this parameter is not specified, the default value is the InstanceId of the instance. • It cannot begin with "http://" or "https://".
Description	String	No	Description of an ECS instance. • It can be [2, 256] characters in length. • The description is displayed in the ECS console. • Default value: null. • It cannot begin with "http://" or "https://".
InternetChargeType	String	No	Internet billing method. Optional value: • PayByTraffic: You are billed based on the traffic usage. Default: PayByTraffic.
InternetMaxBandwidthIn	String	No	Maximum inbound bandwidth from the Internet, its unit of measurement is Mbit/s. Value range: • [1, 200]. Default value: 200.
InternetMaxBandwidthOut	String	No	Maximum outbound bandwidth to the Internet, its unit of measurement is Mbit/s. If this parameter is not specified, an error is returned. If necessary, you can open a ticket to request to change the bandwidth range to [1, 200] Mbit/s. Value range: • PayByTraffic: [0,100] Default value: 0.

Name	Type	Required	Description
HostName	String	No	• It cannot start or end with a period (.) or a hyphen (-) and it cannot have two or more consecutive periods (.) or hyphens (-). • For Windows: The host name can be [2, 15] characters in length. It can contain A-Z, a-z, numbers, periods (.), and hyphens (-). It cannot only contain numbers. • For other operating systems: The host name can be [2, 64] characters in length. It can be segments separated by periods (.). It can contain A-Z, a-z, numbers, and hyphens (-).
Password	String	No	Password of the ECS instance. • It can be 8 to 30 characters in length and can contain uppercase and lowercase letters, digits, and special characters. • Special characters such as ( ) ' ~ ! @ # $ % ^ & * - + = | { } [ ] : ; ‘ < > , . ? are allowed. / If you specify a value for parameter `Password`, use HTTPS to call the API to avoid data breach.
PasswordInherit	Boolean	No	Whether to use the password pre-configured in the image you select or not. When PasswordInherit is specified, the `Password` must be null. For a secure access, make sure that the selected image has password configured.
IoOptimized	String	No	Whether it is an I/O-optimized instance or not. Optional values: • none • optimized For *phased-out instance types*, the default value is none. For other instance types, the default value is optimized.
SystemDisk.Category	String	No	The category of the system disk. Optional values: • Cloud: Basic cloud disk. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: Cloud SSD. • ephemeral_ssd: Ephemeral SSD.

Name	Type	Required	Description
			For *phased-out instance types* and non-I/O optimized instances, the default value is cloud. Otherwise, the default value is cloud_efficiency.
SystemDisk.Size	Integer	No	Size of the system disk, measured in GiB. Value range: [20, 500]. The specified value must be equal to or greater than max{20, Imagesize}. Default value : max{40, ImageSize}.
SystemDisk. DiskName	String	No	Name of the system disk. • It can be [2, 128] characters in length, must begin with an English letter or Chinese character, and can contain digits, colons (:), underscores (_), or hyphens (-). • The name is displayed in the ECS console. • It cannot begin with http:// or https://. • Default value: null.
SystemDisk. Description	String	No	Description of a system disk. • It can be [2, 256] characters in length. • The description is displayed in the ECS console. • It cannot begin with http:// or https://. • Default value: null.
DataDisk.n.Size	Integer	No	Size of the n data disk in GBs, n starts from 1. Optional values: • cloud: [5, 2000] • cloud_efficiency: [20, 32768] • cloud_ssd: [20, 32768] • ephemeral_ssd: [5, 800] The value must be equal to or greater than the specific snapshot (`SnapshotId`).
DataDisk.n. Category	String	No	Category of the data disk n, the valid range of n is [1, 16]. Optional values: • cloud: Basic cloud disk. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: Cloud SSD. • ephemeral_ssd: Ephemeral SSD. Default value: cloud.

Name	Type	Required	Description
DataDisk.n.Encrypted	Boolean	No	Whether the data disk n is encrypted or not. Optional values: • true: Encrypted. • false: Not encrypted. Default value: false.
DataDisk.n.SnapshotId	String	No	Snapshot is used to create the data disk. After the parameter `DataDisk.n.SnapshotId` is specified, parameter `DataDisk.n.Size` is ignored, and the size of a new disk is the size of the specified snapshot. If the specified snapshot was created on or before July 15, 2013, this invocation is denied, and an error `InvalidSnapshot.TooOld` is returned.
DataDisk.n.DiskName	String	No	Name of a data disk. • It can be [2, 128] characters in length. Must begin with an English letter or Chinese character. It can contain digits, colons (:), underscores (_), or hyphens (-). • The data disk name is displayed in the ECS console. • Cannot begin with "http://" or "https://". • Default value: null.
DataDisk.n.Description	String	No	Description of a data disk. • It can be [2, 256] characters in length. • The disk description is displayed in the console. • It cannot begin with http:// or https://. • Default value: null.
DataDisk.n.DeleteWithInstance	Boolean	No	Whether a data disk is released along with the instance or not. Optional values: • true: The disk is released with the instance. • false: The disk is not released with the instance. Default value: true. This parameter is only valid for an independent cloud disk, whose value of parameter `DataDisk.n.Category` is `cloud`, `cloud_efficiency`, or `cloud_ssd`. If you

Name	Type	Required	Description
			specify a value to DataDisk.n.DeleteWithInstance for ephemeral_ssd, an error is returned.
HpcClusterId	String	No	The cluster ID to which the instance belongs.
VSwitchId	String	No	The VSwitch ID must be specified when you create a VPC-connected instance.
PrivateIpAddress	String	No	Private IP address of an ECS instance. PrivateIpAddress depends on `VSwitchId` and cannot be specified separately.
InstanceChargeType	String	No	Billing methods. Optional values: • PrePaid: Monthly, or annual subscription. Make sure that your registered credit card is invalid or you have insufficient balance in your PayPal account. Otherwise, `InvalidPayMethod` error may occur. • PostPaid: Pay-As-You-Go. Default value: PostPaid.
SpotStrategy	String	No	The spot price you are willing to accept for a preemptible instance. It takes effect only when parameter `InstanceChargeType` is `PostPaid`. Optional values: • NoSpot: A normal Pay-As-You-Go instance. • SpotWithPriceLimit: Sets the price threshold for a preemptible instance. • SpotAsPriceGo: A price that is based on the highest Pay-As-You-Go instance. Default value: NoSpot.
SpotPriceLimit	Float	No	The hourly price threshold for a preemptible instance, and it takes effect only when parameter `SpotStrategy` is `SpotWithPriceLimit`. Three decimal places are allowed at most.
Period	Integer	No	Unit: month. This parameter is valid and mandatory only when `InstanceChargeType` is set to `PrePaid`. Optional values: • 1-9 • 12 • 24

Name	Type	Required	Description
			• 36 • 48 • 60
Periodunit	String	No	Value: Optional values: week | month. When `PeriodUnit` is `Week`, • Period can be one of {“1”, “2”, “3”, “4”} • AutoRenewPeriod can be one of {“1”, “2”, “3”} When `PeriodUnit` is `Month`, • Period can be one of { “1”, “2”, “3”, “4”, “5”, “6”, “7 ”, “8”, “9”, “12”, “24”, “36”,”48”,”60”} • AutoRenewPeriod can be one of {“1”, “2”, “3”, “6”, “12”} Default value: Month.
AutoRenew	String	No	Whether to set AutoRenew. Whether to set AutoRenew. This parameter is valid when `InstanceChargeType` is `PrePaid`. Optional values: • True: Enable automatic renewal. • False: Disable automatic renewal. Default value: false.
AutoRenewPeriod	Integer	No	When `AutoRenew` is set to `True`, this parameter is required. Optional values: • 1 • 2 • 3 • 6 • 12
UserData	String	No	The user data for an instance must be encoded in Base64 format. The maximum size of the user-defined data is 16 KB.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Name	Type	Required	Description
KeyPairName	String	No	The name of the key pair. • This parameter is valid only for a Linux instance. For a Windows ECS instance, if a value is set for parameter KeyPairName, the password still takes effect. Default value: null. If a value is set for parameter KeyPairName, the `Password` still takes effect. • The user name and password authentication method is disabled if a value is set for parameter KeyPairName for a Linux instance.
DeploymentSetId	String	No	Deployment Set ID. If you do not enter the value, 1 is used.
RamRoleName	String	No	The RAM role name of the instance. The name is provided and maintained by *RAM* and can be queried using *ListRoles*. For more information, see ***`CreateRole`*** and *ListRoles*.
SecurityEnhancementStrategy	String	No	Whether or not to enable security enhancement. Optional values: • Active: Enables the security enhancement feature and installs a free network security software. Only applicable to the Alibaba Cloud official images. • Deactive: Disables the security enhancement feature. No network security software is installed . Applicable to all kinds of images.
Tag.n.Key	String	No	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	No	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Response parameters

Name	Type	Description
InstanceId	String	ID of the ECS instance. It is a unique identifier of the ECS instance.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateInstance
&RegionId=cn-hangzhou
&ImageId=_32_23c472_20120822172155_aliguest.vhd
&SecurityGroupId=sg-c0003e8b9
&HostName=Bctest01
&InstanceType=ecs.t1.small
&<Common Response Parameters>
```

XML format

```
<CreateInstanceResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
    <InstanceId>i-instance1</InstanceId>
</CreateInstanceResponse>
```

JSON format

```
{
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FE73368",
    "InstanceId": "i-instance1"
}
```

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 overdue payment.
IncorrectVSwitchStatus	The current status of virtual switch does not support this operation.	400	The status of the specified VSwitch does not support the operation.
InstanceDiskCategoryLimitExceed	The specified DataDisk.n.Size beyond the permitted range, or the capacity of snapshot exceeds	400	The specified DataDisk.n.Size exceeds the maximum

Error code	Error message	HTTP status code	Description
	the size limit of the specified disk category.		size of the specified disk category.
InstanceDiskNumber.LimitExceed	The total number of specified disk in an instance exceeds.	400	The number of data disks attached to one ECS exceeds 16.
InvalidAutoRenewPeriod.ValueNotSupported	The specified autoRenewPeriod is not valid.	400	The specified `AutoRenewPeriod` is invalid.
InvalidDataDiskCategory.ValueNotSupported	The specified parameter DataDisk.n.Category is not valid.	400	The specified `DataDisk.n.Category` is invalid.
InvalidDataDiskCategory.ValueNotSupported	The specified parameter DataDisk.n.Category is not valid.	400	The specified `DataDisk.n.Category` is invalid.
InvalidDataDiskSize.ValueNotSupported	The specified DataDisk.n.Size beyond the permitted range, or the capacity of snapshot exceeds the size limit of the specified disk category.	400	The specified `DataDisk.n.Size` is invalid or exceeds the maximum size of the specified disk category.
InvalidDescription.Malformed	The specified parameter Description is not valid.	400	The specified `Description` is invalid.
InvalidDiskCategory.Mismatch	The specified disk categories' combination is not supported.	400	The combination of specified disk categories is not supported.
InvalidDiskCategory.ValueNotSupported	The specified parameter DiskCategory is not valid.	400	The specified `DiskCategory` is invalid.
InvalidDiskDescription.Malformed	The specified parameter SystemDisk.DiskDescription or DataDisk.n.Description is not valid.	400	The specified `SystemDisk.DiskDescription`

Error code	Error message	HTTP status code	Description
			or `DataDisk.n.Description` is invalid.
InvalidDiskDescription.Malformed	The specified parameter SystemDisk.DiskDescription or DataDisk.n.Description is not valid.	400	The specified `SystemDisk.DiskDescription` or `DataDisk.n.Description` is invalid.
InvalidDiskName.Malformed	The specified parameter SystemDisk.DiskName or DataDisk.n.DiskName is not valid.	400	The specified `SystemDisk.DiskName` or `DataDisk.n.DiskName` is invalid.
InvalidHostName.Malformed	The specified parameter HostName is not valid.	400	The specified `HostName` is invalid.
InvalidHpcClusterId.NotFound	The specified HpcClusterId is not found.	400	The specified `HpcClusterId` does not exist.
InvalidHpcClusterId.Creating	The specified HpcClusterId is creating.	400	The specified `HpcClusterId` is being created. Please try again later.
InvalidHpcClusterId.Unnecessary	The specified HpcClusterId is unnecessary.	400	You can specify the only for certain `InstanceType`.
InvalidVSwitchId.Necessary	The HpcClusterId is necessary.	400	For the specified `InstanceType`, you must specify the `HpcClusterId`.
InvalidInstanceName.Malformed	The specified parameter InstanceName is not valid.	400	The specified `InstanceName` is invalid.
InvalidInstanceType.ValueNotSupported	The specified InstanceType beyond the permitted range.	400	The specified `InstanceType` is invalid or does not exist.

Error code	Error message	HTTP status code	Description
InvalidInstanceType.ValueUnauthorized	The specified InstanceType is not authorized.	400	The specified `InstanceType` is unauthorized.
InvalidInternetChargeType.ValueNotSupported	The specified InternetChargeType is not valid.	400	The specified `InternetChargeType` does not exist.
InvalidIoOptimizedValue.ValueNotSupported	IoOptimized value not supported.	400	The specified `IoOptimized` is invalid or does not exist.
InvalidIPAddress.AlreadyUsed	The specified IPAddress is already used by other resource.	400	The specified PrivateIpAddress already exists.
InvalidNetworkType.Mismatch	Specified parameter InternetMaxBandwidthIn or InternetMaxBandwidthOut conflict with instance network type.	400	The specified `InternetMaxBandwidthIn` or `InternetMaxBandwidthOut` does not match the network type of the instance.
InvalidSpotStrategy	The specified SpotStrategy is not valid.	400	The parameter `SpotStrategy` is invalid.
InvalidSpotPriceLimit	The specified SpotPriceLimitis not valid.	400	The parameter `SpotPriceLimit` is invalid.
InvalidSpotAuthorized	The specified Spot param is unauthorized.	400	You cannot create a preemptible instance.
InvalidSpotPrepaid	The specified Spot type is not support PrePay Instance.	400	The billing method Subscription is not applicable for preemptible instance.

Error code	Error message	HTTP status code	Description
InvalidSpotPriceLimit.LowerThanPublicPrice	The specified parameter spotPriceLimit can't be lower than current public price.	400	The specified SpotPriceLimit must be equal to or greater than the official price of the specified instance.
InvalidNetworkType.Mismatch	Specified parameter InternetChargeType conflict with instance network type.	400	The specified `InternetChargeType` is invalid for the network type of the instance.
InvalidNodeControllerId.Malformed	The specified parameter NodeControllerId is not valid.	400	The specified `NodeControllerId` is invalid.
InvalidParameter	The specified parameter InternetMaxBandwidthOut is not valid.	400	The specified `InternetMaxBandwidthOut` is invalid or exceeds the maximum rate.
InvalidParameter	The specified instance bandwidth is not valid.	400	The specified range of bandwidth is invalid.
InvalidParameter.Bandwidth	The specified parameter Bandwidth is not valid.	400	The specified instance bandwidth is not valid.
EncryptedOption.Conflict	Encryption value of disk and snapshot conflict.	400	Both the specified data disk and the specified snapshot must be encrypted or not at the same time.
InvalidParameter.Conflict	The specified image does not support the specified instance type.	400	You cannot use the specified image to create an ECS instance of the specified `InstanceType`.
InvalidParameter.Encrypted.KmsNotEnabled	The encrypted disk need enable KMS.	400	You have not enabled the Key Management Service (KMS) service.

Error code	Error message	HTTP status code	Description
InvalidParameter.EncryptedIllegal	The value of parameter Encrypted is illegal.	400	The specified `DataDisk.n.Encrypted` is invalid.
InvalidParameter.EncryptedNotSupported	Encrypted disk is not support in this region.	400	You cannot encrypt the data disk in the specified region.
InvalidParameter.EncryptedNotSupported	Corresponding data disk category does not support encryption.	400	You cannot encrypt the data disk of the specified DataDisk.n.Category.
InvalidParameter.Mismatch	Specified security group and virtual switch are not in the same VPC.	400	Both the specified security group and the specified VSwitch must be in the same VPC.
InvalidParameter.Mismatch	Specified virtual switch is not in the specified zone.	400	The specified VSwitch is not in the specified zone.
InvalidPassword.Malformed	The specified parameter Password is not valid.	400	The specified `Password` is invalid.
InvalidPrivateIpAddress	Specified private IP address is not in the CIDR block of virtual switch.	400	You must specify the PrivateIpAddress in the form of a Classless Inter-Domain Routing (CIDR) block of the specified VSwitch.
InvalidPrivateIpAddress.Duplicated	Specified private IP address is duplicated.	400	The specified `PrivateIpAddress` already exists.
InvalidPrivateIpAddress.Malformed	Specified private IP address is malformed.	400	The specified PrivateIpAddress is invalid.
InvalidPasswordParam.Mismatch	The input password should be null when passwdInherit is true.	400	When `PasswdInherit` is specified, the `Password` must be null.

Error code	Error message	HTTP status code	Description
InvalidSnapshotId.BasedSnapshotTooOld	The specified snapshot is created before 2013-07-15.	400	The specified DataDisk.n.SnapshotId was created before July 15, 2013.
InvalidSpotAliUid	The specified UID is not authorized to use SPOT instance.	400	You are not authorized to purchase a preemptible instance.
InvalidSystemDiskCategory.ValueNotSupported	The specified parameter SystemDisk.Category is not valid.	400	The specified `SystemDisk.Category` is invalid.
InvalidUserData.NotSupported	The specified parameter UserData only support the vpc and IoOptimized Instance.	400	You can only specify UserData for I/O optimized VPC-connected instances.
InvalidUserData.SizeExceeded	The specified parameter UserData exceeds the size.	400	The size of the UserData has exceeded 16 KB.
MissingParameter	The input parameter VSwitchId that is mandatory for processing this request is not supplied.	400	The `VSwitchId` parameter is required.
MissingParamter	The specified parameter Period is not null.	400	The `Period` parameter is required.
QuotaExceed.AfterpayInstance	The maximum number of Pay-As-You-Go instances is exceeded.	400	The maximum number of Pay-As-You-Go instances is exceeded.
QuotaExceeded	Living instances quota exceeded in this VPC.	400	The number of instances in the specified VPC has reached the upper limit.
QuotaExceeded.PrivateIpAddress	Don’t have enough private IPs in this switch.	400	Insufficient number of PrivateIpAddress in the specified VSwitch.

Error code	Error message	HTTP status code	Description
ResourceNotAvailable	Resource you requested is not available in this region or zone.	400	The resource you requested is unavailable in the specified RegionId or ZoneId. Please try again in another regions or zones.
CategoryNotSupported	The specified zone does not offer the specified disk category.	403	You cannot create a disk of the specified disk category in the specified zone.
DeleteWithInstance.Conflict	The specified disk is not a portable disk and cannot be set to DeleteWithInstance attribute.	403	You cannot specify DeleteWithInstance to true for the specified disk.
DependencyViolation.WindowsInstance	The instance creating is window, cannot use ssh key pair to login.	403	Parameter KeyPairName is valid only for a Linux instance.
DeploymentSet.NoRoom	There is no room for more instance creation in the specified Deployment Set.	403	No more instances can be created in the specified `DeploymentSetId`.
Forbbiden	User not authorized to operate on the specified resource.	403	You are not allowed to operate the specified resource.
ImageNotSubscribed	The specified image has not be subscribed.	403	The specified image on the marketplace is not subscribed.
ImageNotSupportInstanceType	The specified image don’t support the InstanceType instance.	403	The specified image does not support the instance type.
ImageRemovedInMarket	The specified market image is not available, or the specified custom image includes product code because it is based on an image subscribed from marketplace, and	403	The specified image on the marketplace is unavailable, or the image on the marketplace

Error code	Error message	HTTP status code	Description
	that image in marketplace including exact the same product code has been removed.		corresponding to the product code is unavailable.
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.
InstanceDiskNumLimitExceed	The number of specified disk in an instance exceeds.	403	The number of data disks attached to one ECS must be less than 16.
InvalidDiskCategory.Mismatch	The specified disk categories combination is not supported.	403	The combination of specified disk categories is not supported.
InvalidDiskCategory.NotSupported	The specified disk category is not support the specified instance type.	403	The specified disk category is not supported by the specified instance type.
InvalidDiskSize.TooSmall	Specified disk size is less than the size of snapshot.	403	The capacity of the specified disk must be equal to or greater than the size of the specified snapshot.
InvalidInstanceType.ZoneNotSupported	The specified zone does not support this InstanceType.	403	The specified InstanceType cannot be created in the specified zone.
InvalidNetworkType.MismatchRamRole	Ram role cannot be attached to instances of Classic network type.	403	RAM roles cannot be attached to classic network instances.
InvalidParameter.ResourceOwnerAccount	ResourceOwnerAccount is Invalid.	403	The specified `ResourceOwnerAccount` is invalid.

Error code	Error message	HTTP status code	Description
InvalidPayMethod	The specified billing method is not valid.	403	The specified billing method does not exist.
InvalidResourceType.NotSupported	This resource type is not supported; please try other resource types.	403	The specified InstanceType is unavailable. Please try other instance types.
InvalidSnapshotId.NotDataDiskSnapshot	The specified snapshot is system disk snapshot.	403	A data disk cannot be created from the system disk snapshot.
InvalidSnapshotId.NotReady	The specified snapshot has not completed yet.	403	The snapshot has not been completed yet.
InvalidSystemDiskCategory.ValueUnauthorized	The disk category is not authorized.	403	You are not allowed to create a disk of the specified category.
InvalidUser.PassRoleForbidden	The RAM user does not have the privilege to pass a role.	403	A RAM user must be *granted* with a pass role permission before he or she specify RamRoleName for a new ECS instance.
InvalidVSwitchId.NotFound	The VSwitchId provided does not exist in our records.	403	The specified `VSwitchId` does not exist.
IoOptimized.NotSupported	The specified image is not support IoOptimized Instance.	403	The instances of the specified instance type are not I/O optimized.
IoOptimized.NotSupported	Vpc is not support IoOptimized instance.	403	I/O optimized instances are not supported in VPC.
OperationDenied	The specified snapshot is not allowed to create disk.	403	The snapshot of the specified disk is not allowed to create a disk, or the snapshot is not allowed to create a disk.

Error code	Error message	HTTP status code	Description
OperationDenied	The creation of Instance to the specified Zone is not allowed.	403	The specified `ZoneId` is not in the specified `RegionId`. Or an instance cannot be created for the specified zone
OperationDenied	The specified Image is disabled or is deleted.	403	The specified image does not exist.
OperationDenied	Sales of this resource are temporarily suspended in the specified region; please try again later.	403	The specified zone is unavailable for creating Pay-As-You-Go instances.
OperationDenied	The capacity of snapshot exceeds the size limit of the specified disk category or the specified category is not authorized.	403	The specified DataDisk.n.Size is invalid. Or the maximum capacity of the specified DataDisk.n.Size is exceeded. Or you are not allowed to create a disk of the specified category.
OperationDenied	The type of the disk does not support the operation.	403	The specified disk type does not support this operation.
OperationDenied.NoStock	Sales of this resource are temporarily suspended in the specified region; please try again later.	403	The specified instance type is out of stock. Please try other instance types in the region or try other regions and zones.
QuotaExceed.BuyImage	The specified image is from the image market, You have not bought it or your quota has been exceeded.	403	The specified image is from the marketplace. You must purchase it in advance or the image is out of stock in the specified region.

Error code	Error message	HTTP status code	Description
QuotaExceed.PortableCloudDisk	The quota of portable cloud disk exceeds.	403	The number of cloud disks that can be attached to an instance has exceeded 16.
RegionUnauthorized	There is no authority to create instance in the specified region.	403	You are not authorized to use the specified region.
SecurityGroupInstanceLimitExceed	The maximum number of instances in a security group is exceeded.	403	The maximum number of instances in the specified security group is exceeded.
Zone.NotOnSale	The specified zone is not available for purchase.	403	The specified zone is unavailable for creating instance. You can try again in other regions or zones.
Zone.NotOpen	The specified zone is not granted to you to buy resources yet.	403	You are not allowed to create instances in the specified zone.
ZoneId.NotFound	The specified zone does not exists.	403	The specified ZoneId does not exist.
DependencyViolation.IoOptimized	The specified InstanceType must be IoOptimized instance.	404	Only I/O optimized instances are allowed for the specified instance type.
HOSTNAME_ILLEGAL	hostname is not valid.	404	The specified `HostName` is invalid.
InvalidDataDiskSnapshotId.NotFound	The specified parameter DataDisk.n.SnapshotId is not valid.	404	The specified `DataDisk.n.SnapshotId` does not exist.
InvalidDataDiskSnapshotId.NotFound	The specified parameter DataDisk.n.SnapshotId is not valid.	404	The specified `DataDisk.n.SnapshotId` does not exist.

Error code	Error message	HTTP status code	Description
InvalidDeploymentSetId.NotFound	The specified DeploymentSetId does not exist.	404	The specified `DeploymentSetId` does not exist.
InvalidImageId.NotFound	The specified ImageId does not exist.	404	The specified ImageId does not exist.
InvalidInstanceChargeType.NotFound	The InstanceChargeType does not exist in our records.	404	The specified `InstanceChargeType` does not exist.
InvalidKeyPairName.NotFound	The specified KeyPairName does not exist in our records.	404	The specified `KeyPairName` does not exist.
InvalidRamRole.NotFound	The specified RamRoleName does not exist.	404	The specified `RamRoleName` does not exist.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.
InvalidSecurityGroupId.NotFound	The specified SecurityGroupId does not exist.	404	The specified `SecurityGroupId` does not exist. Or you are not authorized to use the specified SecurityGroupId.
InvalidSystemDiskSize	The specified parameter SystemDisk.Size is invalid.	404	The specified `SystemDisk.Size` is invalid.
InvalidSystemDiskSize.LessThanImageSize	The specified parameter SystemDisk.Size is less than the image size.	404	The value of specified `SystemDisk.Size` must be greater than the image size.
InvalidSystemDiskSize.LessThanMinSize	The specified parameter SystemDisk.Size is less than the min size.	404	The value of specified `SystemDisk.Size` must be less than the minimum capacity of the system disk.

Error code	Error message	HTTP status code	Description
InvalidSystemDiskSize.MoreThanMaxSize	The specified parameter SystemDisk.Size is more than the max size.	404	The value of specified `SystemDisk.Size` exceeds the maximum capacity of the system disk.
InvalidVSwitchId.NotFound	Specified virtual switch does not exist.	404	The specified VSwitch does not exist.
InvalidZoneId.NotFound	The specified ZoneId does not exist.	404	The specified ZoneId does not exist.
IoOptimized.NotSupported	The specified InstanceType is not support IoOptimized instance.	404	The instances of the specified instance type are not I/O optimized.
OperationDenied	Another Instance is being created.	404	Another Instance is being created.
PaymentMethodNotFound	No billing method has been registered on the account.	404	No payment method is registered for your account.
InternalError	The request processing has failed due to some unknown error,exception or failure.	500	Internal error. Please try again later.

5.3 StartInstance

Start a specified instance.

Description

- You can only run this interface when the instance is in **Stopped** (`Stopped`) status.
- After you run this interface successfully, the specified instance is in **Starting** (`Starting`) status.
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `LockReason: "security"`, you cannot start the instance.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: StartInstance.
InstanceId	String	Yes	ID of the instance.
InitLocalDisk	Boolean	No	Applicable to instance types of D1, I1, and I2 *instance type family*. Recover to the previous normal status of your local disk when exceptions occurs. Optional values: • true: Recover the local disk to the previous normal status. The accumulated data starting from the previous normal status is overwritten. • false: Skip the recovery, and keep the status of the local disk unchanged.

Response parameters

All parameters are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
 https://ecs.aliyuncs.com/?Action=StartInstance
&InstanceId=i-instance1
&<Common Request Parameters>
```

Response example

XML format

```
<StartInstanceResponse>
    <RequestId>C0003E8B-B930-4F59-ADC0-0E20xxxxxxxx</RequestId>
</StartInstanceResponse>
```

JSON format

```
{
    "RequestId": "C0003E8B-B930-4F59-ADC0-0E20xxxxxxxx"
}
```

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Meaning
DiskError	Incorrect Disk Status	403	Your disk is in an abnormal status.
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current state of the instance does not support this operation.
InstanceExpired	PrePaid instances has been expired.	403	The Subscription instance has expired. The Pay-As-You-Go instance has been in outstanding payment.
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	Operation is denied because the resource is locked for security reasons.
InsufficientBalance	Your account does not have enough balance.	403	The instance cannot be started because the account does not have enough balance.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.
InstanceNotReady	The specified instance is not ready for use	500	The specified instance is being created.
InternalError	The request processing has failed	500	Internal error, please try again later.

Error code	Error message	HTTP status code	Meaning
	due to some unknown error.		

5.4 StopInstance

Stops an ECS instance.

Description

- You can only stop an instance in **Running**(`Running`) status.
- The instance becomes **Stopping** (`Stopping`) after a successful API request, and the instance becomes **Stopped** (`Stopped`) after it is stopped successfully.
- You can force an instance to stop, and the force stop operation is same as the power failure. The temporary files and data in the instance may be lost.
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `LockReason: security`, you cannot stop the instance.
- If a *local disk* is configured in an instance from the *I1 type family*, the request parameter `ConfirmStop` is required. The interface can only be called successfully when the parameter ConfirmStop is set to `True`.
- For an instance from the I1 type family that has a local disk configured, after it is stopped, the data of the local disk is cleared. We recommend that you implement data redundancy at the application layer to guarantee the data availability.
- This API automatically ignores the parameter `ConfirmStop` for all of the instance types except the instance of I1 type family.
- After you enable the feature of ***No fees for stopped instances*** for a VPC instance, you can set `StoppedMode=KeepCharging` to disable the feature, you are billed after the instance is stopped, and its resource and Internet IP address are reserved.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: StopInstance.
InstanceId	String	Yes	The specified instance ID.

Name	Type	Required	Description
ForceStop	String	No	Whether to force shutdown upon device restart. Value range: • true: Force the instance to shut down. • false: The instance shuts down normally. Default value: false.
ConfirmStop	Boolean	No	Whether to stop an I1 ECS instance or not. A required parameter for I1 type family instance, it only takes effect when the instance is of I1 type family. Optional values: • true • false Default value: false.
StoppedMode	String	No	Whether a VPC ECS instance is billed after it is stopped or not. Optional value: KeepCharging. After you enable the feature of ***No fees for stopped instances for a VPC instance***, you can set `StoppedMode=KeepCharging` to disable the feature, the ECS instance will be billed after it is stopped, and its resource and

Name	Type	Required	Description
			Internet IP address are reserved.

Response parameters

All parameters are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=StopInstance
&InstanceId=i-instance1
&<Common Request Parameters>
```

Response example

XML format

```
<StopInstanceResponse>
    <RequestId>1C488B66-B819-4D14-8711-C4EAAA13AC01</RequestId>
</StopInstanceResponse>
```

JSON format

```
{
    "RequestId": "1C488B66-B819-4D14-8711-C4EAAA13AC01"
}
```

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
DiskError	IncorrectDiskStatus	403	The specified ForceStop is invalid, the parameter is not in the enumerated range .
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The resource is currently locked down and the operation is denied.

Error code	Error message	HTTP status code	Meaning
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support the operation.
InstanceType.ParameterMismatch	The input parameter ConfirmStop must be true when an instance have localstorage.	403	The instance is locked for security reasons.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.

5.5 RebootInstance

Restarts an ECS instance.

Description

- You can only restart an ECS instance that is in the **Running** (`Running`) status.
- After an ECS instance is restarted, its intermediate status is **Starting** (`Starting`).
- An instance can be forcefully stopped. Forcing an instance to stop (`ForceStop`) is same as a power failure. The temporary data and files in the instance may be lost.
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `"LockReason" : "security"`, you cannot restart the instance.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: RebootInstance.
InstanceId	String	Yes	The specified instance ID.
ForceStop	String	No	Whether to force shutting down the instance before it restarts. Optional values: • true: Forces shutting down the

Name	Type	Required	Description
			instance before it restarts. • false: Shuts down the instance normally before it restarts. Default value: false.

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=RebootInstance
&InstanceId=i-instance1
&<Common Request Parameters>
```

Response example

XML format

```
<RebootInstanceResponse>
    <RequestId>F2E2C40D-AB09-45A1-B5C5-EB9F5C4E4E4A</RequestId>
</RebootInstanceResponse>
```

JSON format

```
{
    "RequestId": "F2E2C40D-AB09-45A1-B5C5-EB9F5C4E4E4A"
}
```

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
DiskError	IncorrectDiskStatus.	403	Abnormal disk status.
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	You can only restart an ECS instance that is in Running status.

Error code	Error message	HTTP status code	Meaning
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	Your instance is locked for security reasons.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.

5.6 AttachInstanceRamRole

Attaches an *instance RAM role* to your ECS instance. You can only assign one RAM role to an instance at any time. If the instance already has a RAM role, an error code returns when you attach another RAM role to the same instance.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: AttachInstanceRamRole.
RegionId	String	Yes	Region ID. You can call ***`DescribeRegions`*** to obtain the latest region list.
InstanceIds	Array	Yes	Instance ID set . A maximum of 100 instances are supported, in the format of ["instanceId1", "instanceId2", " instanceId3"…].
RamRoleName	String	Yes	Instance RAM role name. The name is provided and maintained by *RAM*. You can call *ListRoles* to view the ram role list. For more

Name	Type	Required	Description
			information, see API ***CreateRole*** and *ListRoles*.

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AttachInstanceRamRole
&RegionId=cn-hangzhou
&RamRoleName=RamRoleTest
&InstanceIds=["i-instance1"]
&<Common Request Parameters>
```

Response example

XML format

```
<AttachInstanceRamRoleResponse>
    <RequestId>E6352369-5C2B-41CD-AB50-471550C8F674</RequestId>
    <AttachInstanceRamRoleResults>
        <AttachInstanceRamRoleResult>
             <InstanceId>i-instance1</InstanceId>
             <Code>200</Code>
             <Message>success</Message>
        </AttachInstanceRamRoleResult>
    </AttachInstanceRamRoleResults>
    <TotalCount>1</TotalCount>
    <FailCount>0</FailCount>
    <RamRoleName>RamRoleTest</RamRoleName>
</AttachInstanceRamRoleResponse>
```

JSON format

```
{
    "RequestId": "D9553E4C-6C3A-4D66-AE79-9835AF705639",
    "AttachInstanceRamRoleResults": {
        "AttachInstanceRamRoleResult": [
            {
                "Message": "success",
                "InstanceId": "i-instance1",
                "Code": "200"
            }
        ]
    },
    "TotalCount": 1,
    "FailCount": 0,
    "RamRoleName": "RamRoleTest"
```

```
}
```

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
InvalidInstanceIds.Malformed	The specified InstanceIds is not valid.	400	The specified InstanceIds is invalid.
MissingParameter.InstanceIds	The input parameter InstanceIds that is mandatory for processing this request is missing.	400	The required InstanceIds parameter is missing.
MissingParameter.RamRoleName	The input parameter RamRoleName that is mandatory for processing this request is missing.	400	The required RamRoleName parameter is missing.
MissingParameter.RegionId	The input parameter RegionId that is mandatory for processing this request is missing.	400	The required RegionId parameter is missing.
InvalidNetworkType.MismatchRamRole	Ram role cannot be attached to instances of Classic network type.	403	RAM roles cannot be attached to instances of classic network type.
InvalidUser.PassRoleForbidden	The RAM user does not have the privilege to pass a role.	403	The RAM user does not have the privilege to pass a role.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.
InvalidRamRole.NotFound	The specified RamRoleName does not exist.	404	The specified RamRoleName does not exist.

5.7 DetachInstanceRamRole

Detaches a *RAM role* from an instance.

Request Parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DetachInstanceRamRole.
RegionId	String	Yes	Region ID. You can call ***DescribeRegions***.
InstanceIds	String	Yes	Instance ID set . A maximum of 100 instances are supported, in the format of ["instanceId1", "instanceId2", " instanceId3"…].
RamRoleName	String	No	Instance RAM role name. The name is provided and maintained by *RAM* and can be queried using *ListRoles*. For more information, see the relevant APIs ***CreateRole*** and *ListRoles*.

Response parameters

Name	Type	Description
TotalCount	Integer	The number of ECS instances from which the instance RAM role is going to be detached.
FailCount	Integer	The number of ECS instances from which the instance RAM role failed to be detached.

Name	Type	Description
RamRoleName	String	The name of instance RAM role.
DetachInstanceRamRoleResults	Array	A set composed of action details about detaching instance RAM role from an ECS instance(*DetachInstanceRamRoleResult*).

DetachInstanceRamRoleResult

Name	Type	Description
InstanceId	String	The ECS instance from which the instance RAM role is going to be detached.
Code	Integer	It indicates whether you have successfully detached the instance RAM role from the ECS instance or not. If `Code=200` returns, the action is successful, and if the other value returns, the action is unsuccessful. For more information on how to fix the errors, see *Error codes*.
Message	String	Indicates whether you have successfully detached the instance RAM role from the ECS instance or not. If `Message=Success` returns, the action is successful, and if the other value returns, the action is unsuccessful. For more information on how to fix the errors, see *Error codes*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DetachInstanceRamRole
&RegionId=cn-hangzhou
&RamRoleName=RamRoleTest
```

```
&InstanceIds=["i-instance1"]
&<Common Request Parameters>
```

Response example

XML format

```
<DetachInstanceRamRoleResponse>
    <RequestId>E6352369-5C2B-41CD-AB50-471550C8F674</RequestId>
    <DetachInstanceRamRoleResults>
        <DetachInstanceRamRoleResult>
             <InstanceId>i-instance1</InstanceId>
             <Code>200</Code>
             <Message>success</Message>
        </DetachInstanceRamRoleResult>
    </DetachInstanceRamRoleResults>
    <TotalCount>1</TotalCount>
    <FailCount>0</FailCount>
    <RamRoleName>RamRoleTest</RamRoleName>
</DetachInstanceRamRoleResponse>
```

JSON format

```
    "RequestId": "E6352369-5C2B-41CD-AB50-471550C8F674",
    "DetachInstanceRamRoleResults": {
        "DetachInstanceRamRoleResult": [

                "Message": "success",
                "InstanceId": "i-instance1",
                "Code": "200"



    "TotalCount": 1,
    "FailCount": 0,
    "RamRoleName": "RamRoleTest"
```

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
MissingParameter.InstanceIds	The input parameter InstanceIds that is mandatory for processing this request is missing.	400	The required InstanceIds parameter is missing.
MissingParameter.RegionId	The input parameter RegionId that is mandatory for	400	The required RegionId parameter is missing.

Error code	Error message	HTTP status code	Meaning
	processing this request is missing.		
InvalidInstanceIds.Malformed	The specified InstanceIds is not valid.	400	The specified InstanceIds is invalid.
InvalidNetworkType.MismatchRamRole	Ram role cannot be attached to instances of Classic network type.	403	RAM roles cannot be attached to instances of Classic network type.
InvalidUser.PassRoleForbidden	The RAM user does not have the privilege to pass a RAM role.	403	Your RAM user account does not have PassRole permission. For more information, see *Attach policies to a RAM user*.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceIds does not exist.
InvalidRamRole.NotFound	The specified RamRoleName does not exist.	404	The specified RamRoleName does not exist.

5.8 DescribeInstances

Describes the details of one or more instances.

Description

The request parameters are filters used for describing a specific list of results. The filters use the (`AND`) logic, which matches a set of resources by specific criteria, such as IDs, billing methods, or tags. A parameter with null value does not play the role of a filter. However, if the `InstanceIds` parameter is a null JSON array `InstanceIds=[]`, it is regarded as a valid filter and the responded value is null.

Request parameters

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

Name	Type	Required	Description
RegionId	String	No	Regional ID. For more information, call **`DescribeRegions`** to obtain the latest region list.
VpcId	String	No	VPC ID.
VSwitchId	String	No	VSwitch ID.
ZoneId	String	No	The default value is blank, which indicates a query of disks in all zones.
InstanceIds	String	No	Instance ID. The value can contain an array of up to 100 instance IDs. The IDs are displayed in the format of ["i-xxxxxxxxx", "i-yyyyyyyyy", … "i-zzzzzzzzz"] and are separated by commas (`,`).
InstanceType	String	No	Instance type.
InstanceTypeFamily	String	No	Instance type family.
InstanceNetworkType	String	No	Network type of the instance. Optional values: • classic: Classic network. • vpc: Private network.
PrivateIpAddresses	String	No	List of private IP addresses of VPC-Connected instances. This parameter is effective when `InstanceNetworkType=vpc`. The value can contain an array of up to 100 IP addresses. The IP addresses are displayed in the format of ["172.16.1.1", "172.16.2.1", … "172.16.10.1"] and are separated by commas (`,`).
InnerIpAddresses	String	No	List of private IP addresses of classic network-connected instances. This parameter is effective when `InstanceNetworkType=classic`. The value can contain an array of up to 100 IP addresses. The IP addresses are displayed in the format of ["10.16.1.1", "10.16.2.1", … "10.16.10.1"] and are separated by commas (`,`).
PublicIpAddresses	String	No	List of public IP addresses of classic network-connected instances. The PublicIpAddresses is valid when `InstanceNetworkType=classic`. The value can contain an array of up to 100 IP addresses. The IP addresses are displayed in the format of ["42.1.1.1", "42.1.2.1", … "42.1.10.1"] and are separated by commas (`,`).

Name	Type	Required	Description
SecurityGroupId	String	No	Security group to which the instances belong.
InstanceChargeType	String	No	Billing method of the instances. Optional values: • PrePaid: Subscribed instances. • PostPaid: Pay-As-You-Go instances.
SpotStrategy	String	No	The spot price you are willing to accept for preemptible instances. This parameter is effective for `InstanceChargeType=PostPaid`. Optional 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.
InternetChargeType	String	No	Billing method of the instance bandwidth. Optional values: • PayByTraffic: You are billed based on the traffic.
InstanceName	String	No	The name of the instance. You can use wildcard (*) for fuzzy search.
ImageId	String	No	Image ID.
DeploymentSetId	String	No	Deployment Set ID.
Status	String	No	Status of the instances. Optional values: • Running • Starting • Stopping • Stopped
IoOptimized	String	No	Whether an instance is I/O optimized. Optional values: • true • false
Tag.n.Key	String	No	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Name	Type	Required	Description
Tag.n.Value	String	No	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
PageNumber	Integer	No	Displays the instances on several pages. Start value: 1. Default: 1.
PageSize	Integer	No	The number of rows per page. Maximum value: 100 Default: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of instances.
PageNumber	Integer	Page number of the instance list.
PageSize	Integer	Number of lines per page set during input.
Instances	*InstanceAttributesType*	Array format composed of InstanceAttributesType, which returns instance information.

Examples

Request example

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

Response example

XML format

```
<DescribeInstancesResponse>
  <PageNumber>1</PageNumber>
  <TotalCount>6</TotalCount>
  <PageSize>10</PageSize>
  <RequestId>8EF01A45-FFFA-497B-B5C3-1DE1B74DB32D</RequestId>
  <Instances>
    <Instance>
      <InnerIpAddress/>
      <ImageId>ubuntu_16_0402_64_20G_alibase_20170818.vhd</ImageId>
      <InstanceTypeFamily>ecs.g5</InstanceTypeFamily>
      <VlanId/>
      <NetworkInterfaces>
        <NetworkInterface>
          <MacAddress>00:16:3e:32:b4:dc</MacAddress>
```

```
          <PrimaryIpAddress>172.17. XX.XXX</PrimaryIpAddress>
          <NetworkInterfaceId>eni-2zeh9atclduxvf1zcyal</NetworkInt
erfaceId>
        </NetworkInterface>
      </NetworkInterfaces>
      <InstanceId>XXXXXXXXXXX</InstanceId>
      <EipAddress>
        <IpAddress/>
        <AllocationId/>
        <InternetChargeType/>
      </EipAddress>
      <InternetMaxBandwidthIn>1000</InternetMaxBandwidthIn>
      <ZoneId>cn-beijing-e</ZoneId>
      <InternetChargeType>PayByBandwidth</InternetChargeType>
      <SpotStrategy>NoSpot</SpotStrategy>
      <StoppedMode>Not-applicable</StoppedMode>
      <SerialNumber>d9bd1cdc-624d-4736-9da5-2ba2f741a304</SerialNumber
>
      <IoOptimized>true</IoOptimized>
      <Memory>8192</Memory>
      <Cpu>2</Cpu>
      <VpcAttributes>
        <NatIpAddress/>
        <PrivateIpAddress>
          <IpAddress>172.17. XX.XXX</IpAddress>
        </PrivateIpAddress>
        <VSwitchId>vsw-2zeh0r1pabwtg6wcssgca</VSwitchId>
        <VpcId>vpc-2zeuphj08tt7q3brdb36x</VpcId>
      </VpcAttributes>
      <InternetMaxBandwidthOut>1</InternetMaxBandwidthOut>
      <DeviceAvailable>true</DeviceAvailable>
      <SecurityGroupIds>
        <SecurityGroupId>sg-2ze21r9qb638hvtrvsus</SecurityGroupId>
      </SecurityGroupIds>
      <SpotPriceLimit>0.0</SpotPriceLimit>
      <SaleCycle>Week</SaleCycle>
      <AutoReleaseTime/>
      <InstanceName>ECS-BUY-2017-57-10</InstanceName>
      <Description/>
      <ResourceGroupId/>
      <OSType>linux</OSType>
      <OSName>Ubuntu 16.04 64</OSName>
      <InstanceNetworkType>vpc</InstanceNetworkType>
      <PublicIpAddress>
        <IpAddress>47.94. XX.XX</IpAddress>
      </PublicIpAddress>
      <HostName>iZ2zeh9atclduxvf1zxuylZ</HostName>
      <InstanceType>ecs.g5.large</InstanceType>
      <CreationTime>2017-12-10T04:04Z</CreationTime>
      <Tags>
        <Tag>
          <TagValue>fqwfew</TagValue>
          <TagKey>fefqe</TagKey>
        </Tag>
        <Tag>
          <TagValue>weqfwq</TagValue>
          <TagKey>fqewfwqewf</TagKey>
        </Tag>
        <Tag>
          <TagValue>ewqffeqw</TagValue>
          <TagKey>fqfwewfqw</TagKey>
        </Tag>
```

```
      </Tags>
      <Status>Running</Status>
      <ClusterId/>
      <Recyclable>false</Recyclable>
      <RegionId>cn-beijing</RegionId>
      <GPUSpec/>
      <OperationLocks/>
      <GPUAmount>0</GPUAmount>
      <InstanceChargeType>PrePaid</InstanceChargeType>
      <ExpiredTime>2017-12-17T16:00Z</ExpiredTime>
    </Instance>
  </Instances>
</DescribeInstancesResponse>
```

JSON format

```
{
  "Instances": {
    "Instance": [
      {
        "CreationTime": "2015-07-27T07:08Z",
        "DeviceAvailable": "true",
        "EipAddress": {},
        "ExpiredTime": "2011-09-08T16:00Z",
        "HostName": "iZ94t3s0jxkZ",
        "ImageId": "centos6u5_64_20G_aliaegis_20150130.vhd",
        "InnerIpAddress": {
          "IpAddress": [
            "10.170. XX.XXX"
          ]
        },
        "InstanceChargeType": "PostPaid",
        "InstanceId": "XXXXXXXXX",
        "InstanceName": "dd\u6027\u80fd\u6d4b\u8bd5",
        "InstanceNetworkType": "classic",
        "InstanceType": "ecs.s2.large",
        "InternetChargeType": "PayByTraffic",
        "InternetMaxBandwidthIn": "-1",
        "InternetMaxBandwidthOut": "1",
        "IoOptimized": "false",
        "OperationLocks": {
          "LockReason": []
        },
        "PublicIpAddress": {
          "IpAddress": [
            "120.25. XX.XXX"
          ]
        },
        "RegionId": "cn-shenzhen",
        "SecurityGroupIds": {
          "SecurityGroupId": [
            "sg-94kd0cyg0"
          ]
        },
        "SerialNumber": "51d1353b-22bf-4567-a176-8b3e12e43135",
        "Status": "Running",
        "VpcAttributes": {
          "PrivateIpAddress": {
            "IpAddress": []
          }
        },
```

```
        "ZoneId": "cn-shenzhen-a"
      }
    ]
  },
  "PageNumber": "1",
  "PageSize": 10,
  "RequestId": "14A07460-EBE7-47CA-9757-12CC4761D47A",
  "TotalCount": "1"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see *API Error Center*.

Error code	Error messages	HTTP status code	Description
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 key-value matched.
InvalidTagCount	The specified tags are beyond the permitted range.	400	You can add up to five tags to the specified ECS resource in this query request.
InvalidInstanceChargeType.NotFound	The InstanceChargeType does not exist in our records.	404	The specified `InstanceChargeType` does not exist.
InvalidInternetChargeType.ValueNotSupported	The specified InternetChargeType is not valid	404	The specified `InternetChargeType` is invalid.
InvalidNetworkType.NotFound	The specified InstanceNetworkType is not found	404	The specified `InstanceNetworkType` does not exist.
InvalidStatus.NotFound	The specified Status is not found	404	The specified`Status` does not exist.

5.9 DescribeInstanceAutoRenewAttribute

Queries the auto renewal status of an instance.

Description

- Queries the auto renewal status of your instance to view if your instance is set to auto renewal.
- Supports *Subscription* ECS instances only. If you use this API on a *Pay-As-You-Go* instance, an error is returned.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeInstanceAuto RenewAttribute.
RegionId	String	Yes	Region ID of an instance. For more information, call ***DescribeRegions*** to obtain the latest region list.
InstanceId	String	Yes	Instance ID set. A maximum of 100 Subscription instances are supported, in the format of ["instanceId 1", "instanceId2", " instanceId3"…].

Response parameters

Name	Type	Description
InstanceId	String	ID of the instance, which is generated by the system and is globally unique. The unique identity to accesses an instance.
Duration	Integer	Auto renewal duration.
AutoRenewEnabled	Boolean	Auto renewal or not.

Name	Type	Description
		• true: Auto renewal is enabled. • false: Auto renewal is disabled.
RenewalStatus	String	Returns whether to renew an ECS instance automatically or not. • AutoRenewal: Auto renewal is enabled. • Normal: Auto renewal is disabled. However, you can renew your ECS instance manually. • NotRenewal: No renewal any longer. If this value is returned, Alibaba Cloud ceases to send notification of instance expiry, and only gives a brief reminder on the third day before the instance expiry. In this case, if you want to renew your instance, you can change the renewal status of your instance to RenewalStatus=Normal (`Noramal`) before a manual renewal or setting it to auto renewal.

Example

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceAutoRenewAttribute
&RegionId=cn-hangzhou
&InstanceId=i-instance1,i-instance2
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeInstanceAutoRenewAttributeResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
    <InstanceRenewAttributes>
        <InstanceRenewAttribute>
          <Instance>
            <InstanceId>i-instance1</InstanceId>
            <Duration>0</Duration>
            <AutoRenewEnalbed>false</AutoRenewEnalbed>
            <RenewalStatus>Normal</RenewalStatus>
          </Instance>
          <Instance>
            <InstanceId>i-instance2</InstanceId>
            <Duration>1</Duration>
            <AutoRenewEnalbed>true</AutoRenewEnalbed>
            <RenewalStatus>AutoRenewal</RenewalStatus>
          </Instance>
        </InstanceRenewAttribute>
    </InstanceRenewAttributes>
</DescribeInstanceAutoRenewAttributeResponse>
```

JSON format

```
{
    "InstanceRenewAttributes": {
        "InstanceRenewAttribute": [
            {
                "Duration": 0,
                "InstanceId": "i-instance1",
                "AutoRenewEnabled": false
                "RenewalStatus": "Normal"
            },
            {
                "Duration": 1,
                "InstanceId": "i-instance2",
                "AutoRenewEnabled": true
                "RenewalStatus": "AutoRenewal"
            }
        ]
    },
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FE73368"
}
```

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
Abs.MissingParamter.InstanceId	InstanceId should not be null.	403	InstanceId is required.
ChargeTypeViolation	Pay-As-You-Go instances do not support this operation.	403	Pay-As-You-Go instances do not support this operation.

Error code	Error message	HTTP status code	Meaning
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	This operation is not supported because the instance has expired.
InvalidParameter.InvalidInstanceId	The specified instanceId is not valid.	403	The specified `InstanceId` is invalid.
InvalidParameter.ToManyInstanceIds	No more than 100 InstanceIds can be specified.	403	The number of the specified `InstanceId` cannot exceed 100.

5.10 DescribeInstanceRamRole

Queries information related to the *instance RAM role*.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeInstanceRamRole
InstanceIds	String	Yes	Instance ID set . A maximum of 100 instances are supported, in the format of ["instanceId1", "instanceId2", " instanceId3"…].
RamRoleName	String	No	Queries all the ECS instances to which the specified RAM role is attached. You can use *RAM* API *ListRoles* to query your available instance RAM roles.

Return parameters

Name	Type	Description
InstanceRamRoleSets	Array	Information set of Instance RAM role (*InstanceRamRoleSetType*)

Example

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceRamRole
&RegionId=cn-hangzhou
&InstanceIds=["i-instance1"]
&<Common Request Parameters>
```

Response sample

XML format

```
<DescribeInstanceRamRoleResponse>
    <RequestId>8F4CAE3F-7892-4662-83A5-2C2FFD639553</RequestId>
    <InstanceRamRoleSets>
        <InstanceRamRoleSet>
             <InstanceId>i-instance1</InstanceId>
              <RamRoleName>RamRoleTest</RamRoleName>
        </InstanceRamRoleSet>
    </InstanceRamRoleSets>
    <TotalCount>1</TotalCount>
</DescribeInstanceRamRoleResponse>
```

JSON format

```
{
    "RequestId": "8F4CAE3F-7892-4662-83A5-2C2FFD639553",
    "InstanceRamRoleSets": {
        "InstanceRamRoleSet": [
            {
                "InstanceId": "i-instance1",
                "RamRoleName": "RamRoleTest"
            }
        ]
    },
    "TotalCount": 1
}
```

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Note
InvalidInstanceIds.Malformed	The specified InstanceIds is not valid .	400	The specified `InstanceIds` are not valid.
InvalidNetworkType.MismatchRamRole	The Ram role cannot be attached to instances of Classic network type.	403	RAM roles cannot be attached to `InstanceIds` of Classic network type. Ram role cannot be attached to instances of Classic network.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceIds does not exist.
InvalidRamRole.NotFound	The specified RamRoleName does not exist.	404	The specified `RamRoleName` does not exist.

5.11 ModifyInstanceVpcAttribute

Modifies the attributes of a Virtual Private Cloud (VPC).

Description

- The ECS instance must be in the `Stopped` status before the VSwitch can be changed.
- A new instance must have been started and stopped before you call this interface.
- An ECS instance that has successfully modified the VPC properties must have been started and stopped before you call this interface again.
- When VPC attributes are modified for a specified `VSwitchId`, the `VSwitchId` must belong to the same VPC.
- When `VSwitchId` is specified and `PrivateIpAddress` is not specified, the system automatically allocates a private IP address for your ECS instance.
- The current `VSwitchId` and new VSwitch of the specified instance must belong to the same zone.
- The current VSwitch and new `VSwitchId` of the specified instance must belong to the same VPC.
- When both `VSwitchId` and `PrivateIpAddress` are specified, the specified PrivateIpAddress must be in the *network segment* of the specified VSwitch. The value of

`PrivateIpAddress` depends on `VSwitchId`. You must specify the VSwitchId when you modify the `PrivateIpAddress` of your instance.

- For more information about the APIs for VPC, see *API Reference of VPC*.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: modifyinstancevpcattribute.
InstanceId	String	Yes.	Instance Id.
VSwitchId	String	Yes.	New VSwitch Id. Only `VSwitchId` in the same zone of the previous VSwitch can be selected.
Privateipaddress	String	No	New private IP addresses of your instance. The value of `PrivateIpAddress` depends on the `VSwitchId`. You must specify the VSwitch when you modify the `PrivateIpAddress` of your instance.

Response parameters

All parameters are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceVpcAttribute
&InstanceId=35F20777-0DFF-C152-41FA-BCE0EA0B2FD7
&VSwitchId=[vswitchid]
&<Common Request Parameters>
```

Response example

XML format

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

JSON format

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

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
Incorrectinstancestatus	The current status of instance does not support this operation.	400	Only an instance in `Stopped` status supports this operation.
InvalidPrivateIp.Changing	Previous action is not finished yet.	400	The private IP address cannot be modified because the previous modification is not finished yet.
InvalidPrivateIp.Changing	Specified private IP address is not in the CIDR block of virtual switch.	400	The private IP address is being modified by the instance (the private IP address can be modified only when the instance is stopped).
InvalidPrivateIpAddress.Duplicated	Specified private IP address is duplicate.	400	The specified private IP address is already in use.
InvalidPrivateIpAddress.Malformed	Specified private IP address is malformed.	400	The specified private IP address is invalid.
InvalidPrivateIpAddress.Mismatch	Specified private IP address is not in the CIDR block of virtual switch.	400	The specified private IP address is not in the network segment of the specified VSwitch.

Error code	Error message	HTTP status code	Description
InvalidVSwitchId.Mismatch	Specified instance and virtual switch are not in the same zone.	400	The specified instance and `VSwitchId` are not in the same zone.
OperationDenied	Specified operation is denied as your instance is not in VPC.	400	The network type for the specified instance must be VPC.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified ECS instance does not exist .
InvalidVSwitchId.NotFound	Specified virtual switch does not exist.	404	The specified VSwitch ID does not exist.
InvalidVSwitchId.NotFound	Specified virtual switch is not found in current VPC.	404	The specified VSwitch of the instance cannot be modified because it is not found in the current VPC.

5.12 ModifyInstanceAttribute

Modifies the information such as the name, password, host name, and description of an instance.

Description

When you call this interface, consider the following:

- You cannot reset the password for an instance when it is in the `Starting` status.
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `" LockReason" : "security"`, you cannot reset its password.
- The new password takes effect only after the instance is *restarted* in the console or by calling the interface ***`RebootInstance`***.
- When an instance is in the **Stopped** status and is not limited to pass a *user data* script, you can modify its user data.

Request parameters

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

Name	Type	Required	Description
			ModifyInstanceAttribute.
InstanceId	String	Yes	The specified instance ID.
InstanceName	String	No	The name of the instance can be 2 to 128 characters in length. It must begin with an uppercase or lowercase English letter, or Chinese character. It can contain digits, periods (.), colons (:), underscores (_), and hyphens (-). It cannot begin with "http://" or "https://".
Description	String	No	The description of the instance is null by default. It can be 2 to 256 characters in length, but cannot begin with "http://" or "https://". The instance description is displayed on the Alibaba Cloud console.
Password	String	No	Resets the administrative password of the instance. The password can be 6 to 30 characters in length and can only contain digits, and/or alphabets.
HostName	String	No	Name of the instance. It cannot start or end with period (.)

Name	Type	Required	Description
			or hyphens (-) and it cannot have two or more consecutive periods (.) or hyphens (-). • **For a Windows instance**: the host name can be [2, 15] characters in length. It can contain uppercase or lowercase letters. It can contain digits, periods (.), and hyphens (-). It cannot contain only numeric characters. • **For a Linux instance**, the host name can be up to [2, 128] characters in length. It can be segments concatenateed by periods (.). Segments can contain uppercase or lowercase letters, digits, or underscores (_).
UserData	String	No	The user-defined data of your ECS instance . The size of your UserData must be less than 16 KB before the Base64 encodement. Refrain from entering confidential informatio n, such as SSH key pair and AccessKey,

Name	Type	Required	Description
			in your request. If you do so, make sure the confidential informatio n is encrypted before Base64 encoding. Also, do not forget to decrypt the informatio n after it passes into your ECS instance.

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceAttribute
&InstanceId=i-instance1
&Password=pwd
&<Common Request Parameters>
```

Response example

XML format

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

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
InvalidDescription. Malformed	The specified parameter “Description ” is not valid.	400	The specified `Description` is invalid.

Error code	Error message	HTTP status code	Meaning
InvalidDescription.Malformed	The specified destination image description is wrongly formed.	400	The specified `Description` is invalid.
InvalidHostPassword.Malformed	The specified parameter “Password” is not valid.	400	The specified `Password` is invalid.
InvalidInstanceName.Malformed	The specified parameter “ InstanceName” is not valid.	400	The specified `InstanceName` is invalid.
InvalidHostName.Malformed	The specified parameter “HostName ” is not valid.	400	The specified `HostName` is invalid.
InvalidPassword.Malformed	The specified parameter “Password” is not valid.	400	The specified `Password` is invalid.
InvalidUserData.SizeExceeded	The specified parameter “UserData” exceeds the size.	400	The size of your `UserData` must be less than 16 KB.
InvalidUserData.NotSupported	The specified parameter “UserData ” only support the vpc and IoOptimized Instance.	400	You can only specify `UserData` for a VPC instance or an I/O optimized instance.
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	You cannot reset the password for an instance when it is in Deleted or Starting status.
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	Your instance has been locked.
OperationDenied	The Specified operation is denied as your instance is locked for security reasons.	403	Your instance has been locked.

Error code	Error message	HTTP status code	Meaning
OperationDenied	The current status of the resource does not support this operation.	403	You cannot reset the password for an instance when it is in Deleted or Starting status.
HOSTNAME_ILLEGAL	hostname is not valid.	404	The specified `HostName` is invalid.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.
InvalidSecurityGroupId.NotFound	The specified SecurityGroupId does not exist.	404	The specified `SecurityGroupId` does not exist.

5.13 ModifyInstanceChargeType

Changes the billing method for one or more instances. You can use this interface to change the billing method between Pay-As-You-Go and Subscription. Additionally, you can change all Pay-As-You-Go cloud disks that are mounted to an instance to Subscription ones.

Description

When you call this interface, consider the following:

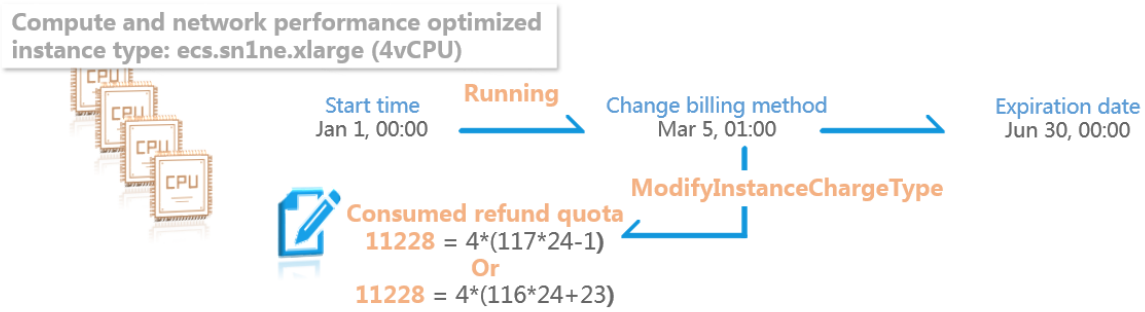
- You can change the billing method only when the target instance is in the **Running** (indicated by `Running`) or **Stopped** (indicated by `Stopped`) state and the balance of your payment method is sufficient.
- By default, the system uses the latest billing method to automatically charge fees. Make sure that your account balance is sufficient. Otherwise, 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.

From Subscription to Pay-As-You-Go

- Alibaba Cloud users who reach a certain credit level can change the billing method from Subscription to Pay-As-You-Go.
- After you change the billing method from Subscription to Pay-As-You-Go, the new billing method will be effective throughout the whole instance life cycle, and you will receive a refund

of the instance price difference. The refund will be returned to your original payment channel, but the used vouchers will not be returned.

- **Refund rule**: You can only freely use a certain amount of refund within a month, and the refund that is not used within the current month will not be accumulated to the next month. After you have used up the refund amount for this month, you can only change the billing method when the next month arrives. The refund amount consumed for a billing method change is calculated by either of the following formulas: **Number of vCPUs x (Number of remaining days within the instance's life cycle excluding the day when the billing method is changed x 24 + Number of remaining hours on the day when the billing method is changed) or Number of vCPUs x (Number of remaining days within the instance's life cycle including the day when the billing method is changed x 24 - Number of elapsed hours on the day when the billing method is changed)**. The following figure illustrates the refund consuming rule by taking the network-enhanced instance type ecs.sn1ne.xlarge (with 4 vCPUs) for example.



From Pay-As-You-Go to Subscription

- You can change all Pay-As-You-Go data disks that are mounted to an instance to Subscription ones.
- This interface cannot be called if the release time has been set for a Pay-As-You-Go instance.

Request parameters

Name	Type	Required	Description
Action	String	Yes	Name of this interface. Value: ModifyInstanceChargeType
RegionId	String	Yes	ID of the region where the instance is located.For more information, call ***DescribeRegions*** to obtain the latest region list.
InstanceIds	String	Yes	Instance ID. The parameter value is a JSON array composed of multiple instance IDs in the ["s-

Name	Type	Required	Description
			xxxxxxxxx", "s-yyyyyyyyy", … "s-zzzzzzzzz"] format. A maximum of 20 IDs are allowed, and the IDs must be separated by commas (`,`).
Period	Integer	No	Instance life cycle
PeriodUnit	String	No	Unit of the instance life cycle. Value range: year, month, week, and day Currently, only `Year`, `Week`, and `Month` are supported.
IncludeDataDisks	Boolean	No	Whether to change all Pay-As-You-Go data disks that are mounted to the instance to Subscription ones. The default value is true.
InstanceChargeType	String	No	Target billing method. Value range: • PrePaid (default value): Subscription, indicating the billing method change from Pay-As-You-Go to Subscription • PostPaid: Pay-As-You-Go, indicating the billing method change from Subscription to Pay-As-You-Go
AutoPay	Boolean	No	Whether to allow automatic payment. Value range: • true (default value): Automatic payment is allowed. Make sure that the balance of your payment method is sufficient. If the balance is insufficient, an abnormal order will be generated, which can only be voided. • false: An order is generated with no fee charged. If the balance of your payment method is insufficient, a normal unpaid order will be generated. In this case, you can log on to the *ECS console* to pay for the order.
DryRun	Boolean	No	Whether the system performs a permission check only. • true: Sends a permission check request, without performing actual API action. An enabled DryRun checks whether your AccessKey is valid, the authorization status of a RAM user, and whether the required parameters are set. If you do not have the required permissions, a related

Name	Type	Required	Description
			error response is returned. Otherwise, it is `DryRunOperation`. • False: Sends a normal request, returns the 2XX HTTP status code after the check and queries the resource status directly. Default value: false.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
OrderId	Long	ID of a generated order

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceChargeType
&RegionId=cn-hangzhou
&InstanceIds=["i-xxxxx1","i-xxxxx2"]
&Period=1
&PeriodUnit=Month
&AutoPay=false
&IncludeAllDisks=true
&ClientToken=xxxxxxxxxxxxxx
&<Common Request Parameters>
```

Response example

XML format

```
<ModifyInstanceConfigurationResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
    <OrderId>10111111111xxxxx</OrderId>
</ModifyInstanceConfigurationResponse>
```

JSON format

```
{
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FExxxxx",
    "OrderId": 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
ExpiredInstance	Expired instances exist in your request list.	400	An overdue instance exists in the instance list.
InstancesIdQuotaExceed	The maximum number of Instances is exceeded.	400	A maximum of 20 instances can be specified at a time.
InvalidInstance.UnpaidOrder	The specified instance has unpaid order.	400	There are still unpaid orders under this instance.
InvalidClientToken.ValueNotSupported	The ClientToken provided is invalid.	400	The value of `ClientToken` is invalid. Only ASCII characters are allowed.
InvalidParameter.InstanceIds	The specified InstanceIds are invalid.	400	The specified `InstanceIds` is invalid.
InvalidStatus.ValueNotSupported	The instance cannot be modified in the specified status.	400	The instance must be **running** (indicated by `Running`) or **stopped** (indicated by `Stopped`).
ReleaseTimeHaveBeenSet	The specified instance has been set released time.	400	Your request involves an instance whose release time has been set.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	Your operations are too frequent. Please try again later.
InvalidPeriod.ExceededDedidactedHost	Instance expired date can't exceed dedicated host expired date.	400	The instance life cycle cannot be longer than

Error code	Error message	HTTP status code	Description
			the dedicated host life cycle.
InvalidAccountStatus.NotEnoughBalance	Your account does not have enough balance.	403	The balance of your payment method is insufficient
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified instance does not exist.
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	There is an internal error.

5.14 ModifyInstanceSpec

Changes the instance type or modifies the Internet bandwidth of a Pay-As-You-Go () instance.

Description

When you call this interface, consider the following:

- The instance cannot have overdue payment.
- You can only modify the Internet bandwidth when the ECS instance is **Running** (`Running`) or **Stopped** (`Stopped`).
- Before upgrading or lowering the instance specification, you can use ***`DescribeResourcesModification`*** to query the current instance for instance specifications that support variant matches.
- You can only change the instance type when the ECS instance is **Stopped** (`Stopped`).
- You can only either change the instance type or modify the Internet bandwidth each time.
- n instance that was successfully modified once cannot be modified again within 5 minutes.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ModifyInstanceSpec
InstanceId	String	Yes	The specified instance ID.

Name	Type	Required	Description
InstanceType	String	No	Instance type. For more information, see *Instance generations and type families*, or call **`DescribeInstanceTypes`** to obtain the latest type list.
InternetMaxBandwidthOut	Integer	No	Maximum value of public network outbound bandwidth; unit: Mbps (Megabit per second). Optional values: • PayByTraffic: [0, 100]
InternetMaxBandwidthIn	Integer	No	Maximum value of inbound Internet bandwidth, in Mbps (Megabit per second). Value range: • Pay-By-Traffic: [1, 200]
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 contains a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Return parameters

Name	Type	Description
RequestId	String	The Request ID.

Example

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceSpec
&InstanceId=i-xxxxx1
&InstanceType=ecs.s1.large
&InternetMaxBandwidthOut=10
&InternetMaxBandwidthIn=100
&ClientToken=xxxxxxxxx
&<common request parameters>
```

Response sample

XML format

```
<ModifyInstanceSpecResponse>
   <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
</ModifyInstanceSpecResponse>
```

JSON format

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

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Note
Account.Arrearage	Your account has an outstanding payment.	400	Your account has an overdue payment.
DependencyViolation.InstanceType	The current InstanceType cannot be changed to the specified InstanceType.	400	You cannot change the instance type to the specified instance type.
IdempotencParamNotMatch	Request uses a client token in a previous request but is not identical to that request.	400	The request parameters for the same `ClientToken` do not match.

Error code	Error message	HTTP status code	Note
InvalidClientToken.ValueNotSupported	The ClientToken provided is invalid.	400	The value of `ClientToken` is invalid. Only ASCII characters are valid.
InvalidInstance.UnpaidOrder	The specified instance has unpaid order.	400	The current instance has unpaid orders.
InvalidInstanceType.ValueNotSupported	The specified InstanceType is not supported.	400	The specified InstanceType is invalid or does not exist.
InvalidInstanceType.ValueUnauthorized	The specified instancetype is not authorized.	400	The specified `InstanceType` is not authorized for use.
InvalidInternetChargeType.ValueNotSupported	The specified InternetChargeType is not valid.	400	The specified `InternetChargeType` does not exist.
InvalidParameter	The specified parameter InternetMaxBandwidthOut is not valid.	400	The specified `InternetMaxBandwidthOut` is invalid (it is not a number or a number out of value range).
InvalidParameter.Bandwidth	The specified parameter Bandwidth is not valid.	400	The specified bandwidth value is invalid.
InvalidParameter.Conflict	The specified image does not support the specified instance type.	400	The image is not allowed to be used on an instance of the specified `InstanceType`.
InvalidParameter.Mismatch	Too many parameters in one request.	400	Request parameters are excessive.
InvalidStatus.ValueNotSupported	The current status of the resource does not support this operation.	400	The status of the instance does not support this operation.

Error code	Error message	HTTP status code	Note
InvalidStatus.ValueNotSupported	The instance cannot be modified in the specified status.	400	The current instance status does not support this operation.
OperationDenied	The specified instance is in VPC.	400	The network type of the instance is VPC.
Price.PricePlanResultNotFound	The internetMaxBandwidthIn or internetMaxBandwidthOut provided is invalid.	400	The specified parameter `InternetMaxBandwidthIn` or `InternetMaxBandwidthOut` is invalid.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	Too many requests were sent.
InvalidInstanceStatus.NotStopped	The specified Instance status is not stopped.	400	The instance is not in the Stopped status.
CategoryViolation	The specified instance does not support this operation because of its disk category.	403	The network type of the current instance does not support this operation.
ChargeTypeViolation	The operation is not permitted due to charge type of the instance.	403	The billing method of the instance does not support this operation.
Imagenotsupportinstancetype	pecified image does not support the specified InstanceType.	403	The instance type is not supported for the specified mirror.
InstanceLockedForSecurity	The input parameter InstanceId that is mandatory for processing this security reasons.	403	The instance is currently locked down and the operation is denied.
InvalidAccountStatus.NotEnoughBalance	Your account does not have enough balance.	403	Your registered credit card is invalid or

Error code	Error message	HTTP status code	Note
			you have insufficient balance in your PayPal account.
LastTokenProcessing	The last token request is processing.	403	The last request is still in process.
OperationDenied	The instance is out of usage.	403	The specified instance type has insufficient inventory.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	Internal error.
InvalidAction	The specified action is not valid.	500	The current operation is invalid.

5.15 ModifyPrepayInstanceSpec

Changes the instance type of Subscription instances.

Description

When using this operation, consider the following:

- The specified instance must be in the **Stopped** (`Stopped`) status.
- The specified instance cannot have outstanding payment.
- Before changing the *subscribed* instance type, you can use the ***`DescribeResourcesModification`*** API to query the instance types you can change to.
- After downgrading the instance type, the new instance type applies to the entire lifecycle of the instance. After an instance is downgraded, you are refunded the price difference for the instance to the payment method you used. If you used coupons, they are not refunded.
- An instance that was successfully operated upon once cannot be operated upon again within five minutes.
- An instance cannot be downgraded more than three times.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: ModifyPrepayInstanceSpec.
InstanceId	String	Yes	Instance ID.
RegionId	String	Yes	The region ID.For more information, call ***DescribeRegions*** to obtain the latest region list.
InstanceType	String	Yes	The instance type to change to. For more information, see *Instance Type Family*, or call ***DescribeInstanceTypes*** to obtain the latest type list.
OperatorType	String	No	Operation type. Optional values: • upgrade: Upgrades the instance type. • downgrade: Downgrades the instance type. Default: Upgrade. Make sure that your registered credit card is valid or enough balance in your PayPal account when you set `OperatorType` to `upgrade`.
AutoPay	Boolean	No	Whether or not automatic payment is enabled. Optional values: • true: Automatic payment. Make sure that your registered credit card is valid or enough balance in your PayPal account. If the balance is not sufficient, an exception order is generated, which can only be voided. • false: Generates orders, but does not deduct the funds. If your registered credit card is invalid or has credit limit set, a normal unpaid order is generated. You can log on to the ECS console to settle this order.By default, the system uses the latest billing method to automatically charge fees. Make sure that your account balance is sufficient. Otherwise, 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.

Name	Type	Required	Description
			Default: true. When the parameter `OperatorType` is set to `downgrade`, the `AutoPay` parameter is ignored.
SystemDisk.Category	String	No	The new category of system disk. This parameter is only used for upgrades from *Phased-out instance types*, to *instance type families available for sale* and from non-I/O optimized instance types to I/O optimized instance types. Optional values: • cloud_efficiency: Ultra cloud disk. • cloud_ssd: SSD cloud disk.
MigrateAcrossZone	Boolean	No	Specifies whether to upgrade the instance among different clusters or not. Default: false. When the `MigrateAcrossZone` is set to `True` and you change the instance type according to the returned information, you must make sure that: • For classic network-connected instances: — If you upgrade the *Phased-out instance types*, non-I/O optimized instances to I/O optimized instances, the instance-related intranet IP address, disk device names and license key of the instance may change. For Linux instances, Basic Cloud Disks (`cloud`) will be recognized as `xvda` or `xvdb`, while Ultra Cloud Disks (`cloud_efficiency`) and SSD Cloud Disks (`cloud_ssd`) as `vda` or `vdb`. — If your classic network instances are available in the *instance type families*, the private IP of the instances may change. • For VPC-Connected instances: If you upgrade the *Phased-out instance types*, non-I/O optimized instances to I/O optimized instances, the disk device names and license key of the ECS may change. For Linux instances, Basic Cloud Disks (`cloud`) will be recognized as `xvda` or `xvdb`, while Ultra Cloud Disks (

Name	Type	Required	Description
			`cloud_efficiency`) and SSD Cloud Disks (`cloud_ssd`) as `vda` or `vdb`.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
OrderId	Long	Order ID.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyPrepayInstanceSpec
&RegionId=cn-hangzhou
&InstanceId=i-xxxxx1
&InstanceType=ecs.s1.large
&AutoPay=true
&OperatorType=upgrade
&ClientToken=xxxxxxxxxxxxxx
&<Common Request Parameters>
```

Response example

XML format

```
<ModifyPrepayInstanceSpecResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
    <OrderId>1011111111111111</OrderId>
</ModifyPrepayInstanceSpecResponse>
```

JSON format

```
{
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FE73368",
    "OrderId": 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	Overdue payment exists in your account.
IdempotenceParamNotMatch	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.
InvalidBillingMethod.ValueNotSupported	The operation is not permitted due to an invalid billing method of the instance.	400	The instance billing method is invalid.
InvalidClientToken.ValueNotSupported	The ClientToken provided is invalid.	400	The value of `ClientToken` is invalid. Only ASCII characters are allowed.
InvalidInstance.UnpaidOrder	The specified Instance has unpaid order.	400	The current instance has outstanding orders.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	400	The specified instance ID does not exist.
InvalidInstanceId.Released	The specified Instance has been released.	400	The specified instance has been released.
InvalidInstanceType.ValueNotSupported	The specified InstanceType is not supported.	400	The specified `InstanceType` is invalid or does not exist.
InvalidInstanceType.ValueUnauthorized	The specified InstanceType is not authorized.	400	The specified `InstanceType` is unauthorized.
MissingParameter.InstanceIdNotSupported	The InstanceId should not be null.	400	The `InstanceId` is required.
MissingParameter.RegionId	The RegionId should not be null.	400	The `RegionId` is required.

Error code	Error message	HTTP status code	Description
OrderCreationFailed	Order creation failed, please check your params and try it again later.	400	Failed to create the order because of the parameters setting.
Throttling	You have made too many requests within a short time; your request is denied due to request throttling.	400	You have made too many frequent requests in a short time.
ImageNotSupportInstanceType	The specified image does not support the specified InstanceType.	403	The specified image does not support this instance type.
InvalidAccountStatus.NotEnoughBalance	Your account does not have enough balance.	403	Your registered credit card is invalid or has credit limit set.
InvalidBillingMethod	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.
BillingMethodNotFound	The account has not chosen any billing method.	404	No payment method was selected for your account.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	Internal error.

5.16 RenewInstance

Renews a subscription instance.

Description

When you call this interface, consider the following:

- This interface supports only Subscription ECS instances.
- By default, coupons available under your account will be preferentially used during payment if you are not using a free account.
- Your account must support credit payment. Otherwise, your request will be denied.

Request parameters

Name	Type	Required	Description
Action	String	Yes	Name of this interface. Value: RenewInstance.
InstanceId	String	Yes	ID of the instance to be renewed.
Period	Integer	Yes	Renewal period of a Subscription instance. This parameter is valid and mandatory only when `InstanceChargeType` is set to `PrePaid`. Once **`DedicatedHostId`** is specified, the value range of the Period parameter must be within the subscription period of the dedicated host. Value range: • {“1”, “2”, “3”, “4”} when **`PeriodUnit`** is set to week. • { “1”, “2”, “3”, “4”, “5”, “6”, “7”, “8”, “9”, “12”, “24”, “36”,”48”,”60”} when **`PeriodUnit`** is set to `month`
PeriodUnit	String	No	Unit of `Period`. Value range: • Week • Month (Default value)
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

All are common response parameters. See *Common response parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=RenewInstance
&amp;InstanceId=i-instance1
&amp;Period=1
&<Common Request Parameters>
```

Response example

XML format

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

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
IdempotenceParamNotMatch	Request uses a client token in a previous request but is not identical to that request.	400	The parameter does not match the request parameter using the same ClientToken.
InvalidClientToken.ValueNotSupported	The ClientToken provided is invalid.	400	The ClientToken value is invalid. Only ASCII characters are allowed.
InvalidPeriod	The specified period is not valid.	400	The specified Period is invalid (not a digit or beyond the value range).

Error code	Error message	HTTP status code	Meaning
ChargeType Violation	The operation is not permitted due to charge type of the instance.	403	The payment method does not support this operation.
IncorrectI nstanceStatus	The current status of the resource does not support this operation.	403	The current state of the resource does not support this operation.
Instance. UnPaidOrder	The specified instance has unpaid order.	403	There are still unpaid orders under this instance.
InstanceLo ckedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	This operation is denied because the instance is locked for security reasons.
LastTokenP rocessing	The last token request is processing.	403	The last request is still in progress.
InvalidInstanceId. NotFound	The specified InstanceId does not exist.	404	The specified InstanceId does not exist.

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: CreateLaunchTemplate.

Name	Type	Required	Description
RegionId	String	Yes	Region ID of an instance. For more information, 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.
VSwitchId	String	No	When creating a VPC-Connected instance, you must specify its VSwitch ID.
InstanceName	String	No	The name of the instance. The name is a string of 2 to 128 characters. It must begin with an English or a Chinese character. It can contain A-Z, a-z, Chinese characters, numbers, periods (.), colons (:), underscores (_), and hyphens (-).
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 a hyphen (-) and it cannot have two or more consecutive periods (.) or hyphens (-). • For Windows: The host name can be [2, 15] characters in length. It can contain A-Z, a-z,

Name	Type	Required	Description
			numbers, periods (.), and hyphens (-). It cannot only contain numbers. • For other operating systems: The host name can be [2, 64] characters in length. It can be segments separated by periods (.). It can contain A-Z, a-z, 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 Disks. • 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 name is a string of 2 to 128 characters. It must begin with an English or a Chinese character. It can contain A-Z, a-z, Chinese characters, numbers, periods (.), colons (:), underscores (_), and hyphens (-).
SystemDisk.Description	String	No	System disk description. It cannot begin 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 Disks. • 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]

Name	Type	Required	Description
DataDisk.n.SnapshotId	String	No	The snapshot used to create the data disk. 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.1.PrimaryIpAddress	String	No	The primary private IP address of the ENI.
NetworkInterface.1.VSwitchId	String	No	The VSwitch ID for ENI. The instance must be in the same zone of the same VPC network as the ENI, but they may belong to different VSwitches.
NetworkInterface.1.SecurityGroupId	String	No	The security group ID must be one in the same VPC.
NetworkInterface.1.NetworkInterfaceName	String	No	ENI name.
NetworkInterface.1.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.

Name	Type	Required	Description
			• 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 *RAM* API ***ListRoles*** to query instance RAM role names.
AutoReleaseTime	String	No	Instance auto release time. The time is presented using the *ISO8601* standard and in UTC time. The format is YYYY-MM-DDTHH:MM:SSZ.
SpotStrategy	String	No	The spot strategy for a Pay-As-You-Go instance. This parameter is valid and mandatory only when `InstanceChargeType` is set to `PostPaid`. Value range: • NoSpot: Normal Pay-As-You-Go instance. • 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	This tag applies to instance, disk, security group, or image. The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	No	This tag applies to instance, disk, security group, or image. The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Name	Type	Required	Description
TemplateTag.n.Key	String	No	This tag applies to launch template. The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
TemplateTag.n.Value	String	No	This tag applies to launch template. The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with " aliyun", "acs:", "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. For more information, 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 cannot begin with http:// or https://.
ImageId	String	No	Image ID.
InstanceType	String	No	Instance type. For more information, call *Instance type families* 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 name is a string of 2 to 128 characters. It must begin with an English or a Chinese character. It can contain A-Z, a-z, Chinese characters, numbers, periods (.), colons (:), underscores (_), and hyphens (-).

Name	Type	Required	Description
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, measured in Mbit/s. Value range: [0, 100].
HostName	String	No	Instance host name. • It cannot start or end with a period (.) or a hyphen (-) and it cannot have two or more consecutive periods (.) or hyphens (-). • For Windows: The host name can be [2, 15] characters in length. It can contain A-Z, a-z, numbers, periods (.), and hyphens (-). It cannot only contain numbers. • For other operating systems: The host name can be [2, 64] characters in length. It can be segments separated by periods (.). It can contain A-Z, a-z, 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. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: SSD Cloud Disks. • 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 Disks.

Name	Type	Required	Description
			• 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. 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.1.PrimaryIpAddress	String	No	The primary private IP address of ENI.
NetworkInterface.1.VSwitchId	String	No	The VSwitch ID for ENI. The instance must be in the same zone of the same VPC network as the ENI, but they may belong to different VSwitches.
NetworkInterface.1.SecurityGroupId	String	No	The security group ID of ENI. You must specify a security group in the same VPC network.
NetworkInterface.1.NetworkInterfaceName	String	No	The name of ENI. The name is a string of 2 to 128 characters. It must begin with an English or a Chinese character. It can contain A-Z, a-z,

Name	Type	Required	Description
			Chinese characters, numbers, periods (.), colons (:), underscores (_), and hyphens (-).
NetworkInterface.1.Description	String	No	The description of ENI. It cannot begin with http:// or https://.
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. If a value is set for parameter KeyPairName, the `Password` still takes effect. • The user name and password authentication method is disabled if a value is set for parameter KeyPairName for a Linux instance.
RamRoleName	String	No	The RAM role name of the instance. You can use the *RAM* API ***`ListRoles`*** to query instance RAM role names.
AutoReleaseTime	String	No	Instance auto release time. The time format follows the *ISO8601* standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
SpotStrategy	String	No	The preemption strategy for Pay-As-You-Go (PostPaid) instances. This parameter is valid and mandatory only when `InstanceChargeType` is set to `PostPaid`. Optional values: • NoSpot: Normal Pay-As-You-Go instance. • 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.

Name	Type	Required	Description
Tag.n.Key	String	No	This tag applies to instance, disk, security group, or image. The key of a tag of which n is from 1 to 20 . Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https ://".
Tag.n.Value	String	No	This tag applies to instance, disk, security group, or image. The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length . It cannot begin with "aliyun", "acs:", "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

Error codes specific to this interface are as follows. For more information, see *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 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.
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.
LaunchTemplateVersionLimitExceed	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 : DeleteLaunchTemplate.
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. For more information, call ***DescribeLaunchTemplates***. Either the `LaunchTemplateId` or the `LaunchTemplateName` 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

Name	Type	Required	Description
			`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 **`DescribeLaunchTemplateVersi`** to query the template version list.
LaunchTemplateId	String	No	Template ID. Either the `LaunchTemplateId` or the `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.
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 one or more 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. For more information, call **`DescribeRegions`** to obtain the latest region list.
LaunchTemplateId	List	No	One or more instance launch template ID, 100 IDs can be specified at most. You must specify the `LaunchTemplateId` or `LaunchTemplateName` to determine the template.
LaunchTemplateName	List	No	One or more instance launch template name, 100 names can be specified at most.
Tag.n.Key	String	No	This tag applies to instance, disk, security group, or image. The key of a tag of which n is from 1 to 20

Name	Type	Required	Description
			. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https ://".
Tag.n.Value	String	No	This tag applies to instance, disk, security group, or image. The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length . It cannot begin with "aliyun", "acs:", "http://", or " https://".
TemplateTag.n. Key	String	No	This tag applies to launch template. The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
TemplateTag.n. Value	String	No	This tag applies to launch template. The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with " aliyun", "acs:", "http://", or "https://".
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

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.
LaunchTemp lateSet	*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-m5e3ofjr1zn1aw7qdxxx",
   "DefaultVersionNumber":1

 }
```

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
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.

6.6 DescribeLaunchTemplateVersions

Queries instance launch template versions.

Request Parameters

Parameter	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeLaunchTemplateVersions.
RegionId	String	Yes.	Region ID of an instance launch template. You can all ***DescribeRegions*** to view the latest list of Alibaba Cloud regions,

Parameter	Type	Required	Description
LaunchTemplateId	String	No	Instance launch template ID. Either the `LaunchTemplateId` or `LaunchTemplateName` must be specified to determine the template.
LaunchTemplateName	String	No	Instance launch template name.
LaunchTemplateVersion.N	Long	No	One or more instance launch template versions.
MinVersion	Long	No	The minimum version number when a range 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.

Parameter	Type	Description
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.
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.

Parameter	Type	Description
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.
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.

Parameter	Type	Description
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.
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>wwww</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>
         <networkinterfacename>NetworkInterfaceName1</networkint
erfacename>
         <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>
       <iooptimized>true</iooptimized>
       <zoneid>ZoneId1</zoneid>
       <systemdisk.description>SystemDiskDescription1</systemdisk.
description>
       <securitygroupid>sg-tiantt1234</securitygroupid>
       <vswitchid>vsw-xxxxxx</vswitchid>
       <period>1</period>
       <internetchargetype>PayByBandwidth</internetchargetype>
       <instancename>InstanceName1</instancename>
       <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, see *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***.
DefaultVersionNumber	Long	Yes	Sets the default version number for the instance launch template.
LaunchTemplateId	String	No	Instance launch template ID. Either the `LaunchTemplateId` or `LaunchTemplateName` must be specified to determine the template.
LaunchTemplateName	String	No	Instance launch template name. You must specify the `LaunchTemplateId` or `LaunchTemplateName` 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.

Error code	Error message	HTTP status code	Description
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: CreateDisk.
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. 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.

Name	Type	Required	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.
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.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It

Name	Type	Required	Description
			cannot begin with "aliyun", "acs:", "http://", or "https ://".
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It 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.

Error code	Error message	HTTP status code	Meaning
InvalidSize.ValueNotSupported	The specified parameter Size is not valid.	400	The specified `Size` is not invalid.
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.

Error code	Error message	HTTP status code	Meaning
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.
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 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 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-xxxxxxxxx”, “d-yyyyyyyyy”, … “d-zzzzzzzzz”]. 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 • ReIniting • 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: • 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.

Name	Type	Required	Description
			• Subscribed disk that use basic cloud disk, cloud efficiency disk, and cloud SSD. `false` indicates you cannot attach or detach the preceding disks independently.
DeleteWith Instance	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. • false: When the instance is released, this disk is retained. Default value: false.
DeleteAuto Snapshot	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.
EnableAuto Snapshot	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	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https ://".
PageNumber	Integer	No	The current page of the disk status list. The start value: 1. Default value: 1.

Name	Type	Required	Description
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.

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

7.3 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.
DeleteWith Instance	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 thisrequest 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.
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.
InvalidDevice.InUse	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 samezone.	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.

Error code	Error message	HTTP status code	Meaning
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified instance does not exist.

7.4 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, see *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.

Error code	Error message	HTTP status code	Meaning
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.

7.5 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: ModifyDisk ChargeType.
DiskIds	String	Yes	The list of disk identifiers. This is a JSON formatted array ["d-xxxxxxxxx", "d -yyyyyyyyy", … "d-zzzzzzzzz"], including up to 16 identifiers . These identifiers are separated with commas (,).
InstanceId	String	Yes	The identifier of an instance that disks are attached to.
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.

Name	Type	Required	Description
			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 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

Name	Type	Required	Description
			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.
IdempotencParamNotMatch	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 **`ClientTokeen`** value is invalid. 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.

Error code	Error message	HTTP status code	Description
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.
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.

7.6 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 an must begin with an uppercase or lowercase letter. Can contain digits , colons (:), periods (.), underscores (_), and hyphens (-). • It cannot begin with http:// or https://. • 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 http:// or https://. • If it is left empty, the original value is

Name	Type	Required	Description
			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 `DeleteWithInstance` 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:

Name	Type	Required	Description
			• 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: • 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.
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 `DeleteWithInstance=false` attribute, you cannot set the attribute `Portable` of the specified cloud disk to `false`.
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 Description is incorrect.
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified DiskId does not exist.

7.7 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, [size of the current system disk]}. Extra fees are charged for the size that exceeds max{20, [the volume of current system disk]}.

Request parameters

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

Name	Type	Required	Description
			• 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 `Password` parameter, use HTTPS to call the API to avoid password breach.
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.

Name	Type	Required	Description
			• 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]. 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 *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

Name	Type	Required	Description
			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 `PasswdInherit` is specified, the `Password` must be null.
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.

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 is being created for the specified disk, please try again later.
ImageNotSubscribed	The specified image has not be subscribed.	403	You must subscribe the specified image before the action.
ImageNotSupportInstanceType	The specified image don 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 includes product code because it is based on an image subscribed from marketplace, and that image in marketplace includeing exact the same product code has been removed.	403	The specified ImageId is no longer available in the cloud market.
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.
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 overdue payment.

Error code	Error message	HTTP status code	Meaning
InstanceLo ckedForSecurity	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.
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.

7.8 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, see *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

Error code	Error message	HTTP status code	Meaning
			visit the *ECS console* to sign up and activate your account.
InvalidParameter.Mismatch	The specified snapshot is not created from the specified disk.	403	The specified SnapshotId must be 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.

7.9 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

Name	Type	Required	Description
			generated by a client. The client token must be unique among all requests and can only contain up to 64 ASCII characters. 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	403	A snapshot is being created for the specified disk, please try again later.

Error code	Error message	HTTP status code	Description
	specified disk is not completed yet.		
DiskError	IncorrectDiskStatus	403	Abnormal disk status.
DiskInArrears	The specified operation is denied as your disk owing fee.	403	Overdue payment on the specified disk.
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.

Error code	Error message	HTTP status code	Description
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 Images

8.1 CreateImage

Creates a custom image. You can use a custom image to create instances (***RunInstances***) or change the system disk for an existing instance (***ReplaceSystemDisk***).

Description

When you call this interface, consider the following:

- You can use a custom image only after its status becomes **Available** (`Available`).
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `LockReason: "security"`.

Approaches

Three approaches of creating a custom image are as follows:

Approach 1. If you want to create a custom image based on the system disk of your ECS instance, you can specify one of the system disk snapshots (`SnapshotId`) to create a custom image. However, the specified snapshot cannot be created on or earlier than July 15, 2013.

Approach 2. If you want to create a template for a whole ECS instance, you can specify the (`InstanceId`) to create a custom image. You must make sure that the status of the specified instance is Running or Stopped. **Running** (`Running`) or **Stopped** (`Stopped`). After a successful invocation, each disk of the specified instance has a new snapshot created.

Approach 3. If you want to combine multiple snapshots to make an image template, you can specify `DiskDeviceMapping` to create a custom image. When you specify DiskDeviceMapping, consider the following:

- You can only specify one system disk snapshot. The device name of the system disk must be /dev/xvda.
- You can specify multiple data disk snapshots. The device names of the data disks are allocated sequentially from /dev/xvdb to /dev/xvdz, without duplicates.
- `SnapshotId` is not required, if you do not specify the SnapshotId, a disk with empty size is created.
- However, the specified SnapshotId cannot be created on or earlier than July 15, 2013.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: CreateImage.
RegionId	String	Yes	The region ID of the image. For more information, call ***DescribeRegions*** to obtain the latest region list.
SnapshotId	String	No	The snapshot ID. A custom image is created from the specified snapshot.
InstanceId	String	No	Instance ID.
DiskDevice Mapping.N.Size	String	No	The size of a disk. The unit of measurement is GiB. Value range: [5, 2000] GiB. • The default value is the value of snapshot size (`DiskDeviceMapping.N.SnapshotId`) if you do not specify this parameter. • If you do not specify the snapshot ID (`DiskDeviceMapping.N.SnapshotId`), the default size is 5 GiB. • The size value cannot be less than the size of the snapshot (`DiskDeviceMapping.N. SnapshotId`). The value range of n in `DiskDeviceMapping.n` is: [1, 17]. • `n` =1: Indicates the specified disk is a system disk. • `n` =2, 3, ……17: Indicates the specified disk is a data disk.
DiskDevice Mapping.N. SnapshotId	String	No	The snapshot ID of the disk `DiskDeviceMapping .N.`.
ImageName	String	No	Image name. • Can contain [2, 128] characters in length. Must begin with an English letter or Chinese character . Can contain digits, colons (:), underscores (_), or hyphens (-). • Cannot begin with http:// or https://.
ImageVersion	String	No	The version number of the image, with a length limit of [1, 40] English characters.

Name	Type	Required	Description
Description	String	No	The description of the image. • It can be [0, 256] letters in length. • It cannot begin with http:// or https://. • Default value: null.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client and must be globally unique. Only ASCII characters are allowed. It can contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
ImageId	String	Image ID

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateImage
&RegionId=cn-hangzhou
&SnapshotId=s-snapshot1
&ImageName=demo_image
&<Common Request Parameters>
```

Response example

XML format

```
<CreateImageResponse>
    <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
    <ImageId>m-63DFD5FB2</ImageId>
```

```
</CreateImageResponse>
```

JSON format

```
{
    "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
    "ImageId": "m-63DFD5FB2"
}
```

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
IncorrectInstanceStatus	The current status of the instance does not support this operation.	400	The status of the specified instance must be Running or Stopped.
InstanceLockedForSecurity	The input parameter InstanceId that is mandatory for processing this security reasons.	400	The specified instance has been locked for the sake of security.
InvalidDescription.Malformed	The specified description is wrongly formed.	400	The specified `Description` is invalid.
InvalidImageName.Duplicated	The specified Image name has already been used.	400	The value of the specified `ImageName` already exists.
InvalidImageName.Malformed	The specified Image name is wrongly formed.	400	The format of the specified `ImageName` is incorrect.
InvalidImageVersion.Malformed	The specified ImageVersion is wrongly formed.	400	The format of the specified `ImageVersion` is incorrect. Or you are not authorized to access the specified `ImageVersion`.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	400	The specified InstanceId does not exist.

Error code	Error message	HTTP status code	Description
InvalidInstanceId.ValueNotSupported	The specified InstanceId is not allowed to create image.	400	The specified InstanceId cannot be used to create custom images.
InvalidSize.ValueNotSupported	The specified parameter DiskDeviceMapping.n.Size beyond the permitted range.	400	The maximum size of the specified `DiskDeviceMapping.n.Size` value is exceeded.
MissingParameter	The input parameter SnapshotId or InstanceId or DiskDeviceMapping that is mandatory for processing this request is not supplied.	400	You must specify the required `SnapshotId`, `InstanceId`, or `DiskDeviceMapping`.
OperationDenied	The specified parameter DiskDeviceMapping.n.SnapshotId does not contain system disk snapshot.	400	One system disk snapshot must be contained in the list of `DiskDeviceMapping.n.SnapshotId`.
OperationDenied	The specified parameter DiskDeviceMapping.n.SnapshotId contains two or more system disk snapshots.	400	Parameter Only one system disk snapshot can be contained in the list of `DiskDeviceMapping.n.SnapshotId`.
Invalidaccountant status.	Your account does not have enough balance.	403	Your registered credit card is invalid or you have 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 ECS console to sign up and activate your account.

Error code	Error message	HTTP status code	Description
InvalidParamter.Conflict	The specified same token is trying to make requests with different parameters.	403	The specified `ClientToken` is uniformed with the parameters.
InvalidSnapshot.TooOld	This operation is denied because the specified snapshot by DiskDeviceMapping.n.SnapshotId or SnapshotId is created before 2013-07-15.	403	The specifed snapshot cannot be created on or earlier than July 15, 2013.
InvalidSnapshotId.NotReady	The current status of the DiskDeviceMapping.n.SnapshotId or SnapshotId does not support this operation.	403	The status of specified snapshot is incorrect.
OperationDenied	The specified snapshot is not allowed to create image.	403	The snapshot of the specified disk cannot be used to create images.
OperationDenied	The specified snapshot is not from system disk.	403	Only a system disk snapshot can be used to create custom images.
QuotaExceed.Image	The Image Quota exceeds.	403	The maximum number of your custom images have exceeded.
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.
InvalidSnapshotId.NotFound	The specified SnapshotId does not exist.	404	The specified SnapshotId does not exist.

8.2 ImportImage

Imports an on-premises image to Alibaba Cloud ECS.

Description

You can use the imported image to create instances (***RunInstances***) or replace the system disk of an instance (***ReplaceSystemDisk***). When you call this interface, consider the following:

- You must *upload the image file to OSS* beforehand.
- You can only import an image file to a region from OSS in the same region. The image and OSS must belong to one account.
- The n in `DiskDeviceMapping.n` indicates the disk type. When n is set to 1, it represents a system disk. When n is set to [2, 17], it represents a data disk.
- You cannot delete an image that is being imported. However, you can cancel the image import task (***CancelTask***).
- To use *RAM* to allow ECS to access OSS for your Alibaba Cloud account, follow these steps:

  1. Create a role with a name `AliyunECSImageImportDefaultRole` (**image import fails if a different name is used**), and see the following code snippet to set its role policy.

     ```
     {
     "Statement": [
     {
     "Action": "sts:AssumeRole",
     "Effect": "Allow",
     "Principal": {
      "Service": [
        "ecs.aliyuncs.com"
      ]
     }
     }
     ],
     "Version": "1"
     }
     ```

  2. Attach the default permission policy `AliyunECSImageImportRolePolicy` to AliyunECSImageImportDefaultRole. You can also create a custom policy with the following permissions:

     ```
     {
     "Version": "1",
     "Statement": [
     {
     "Action": [
      "oss:GetObject",
      "oss:GetBucketLocation"
     ],
     "Resource": "*",
     "Effect": "Allow"
     ```

```
}
]
}
```

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ImportImage.
RegionId	String	Yes	The region ID. You can call ***DescribeRegions*** to obtain the latest region list.
ImageName	String	No	The image name. • Can be [2, 128] characters in length. Must start with an uppercase or lowercase English letter, or a Chinese character. Can contain digits, colons (:), underscores (_), or hyphen (-). • The image name is displayed in the ECS console . • Cannot start with http:// or https://.
Description	String	No	The image description. • Can be null, but the image description is optional and but must not exceed 256 characters. • Cannot start with http:// or https://.
Architecture	String	No	The system architecture. Optional values: • i386 • x86_64 Default value: x86_64.
OSType	String	No	The type of operating system platform. Optional values: • Windows • Linux Default value: Linux.
Platform	String	No	The operating system release edition. Optional values: • CentOS • Ubuntu • SUSE • OpenSUSE • Debian

Name	Type	Required	Description
			• CoreOS • Aliyun • Windows Server 2003 • Windows Server 2008 • Windows Server 2012 • Others Linux • Customized Linux Default value: Others Linux.
DiskDevice Mapping.n. Format	String	No	The image format. Optional values: • RAW • VHD • qcow2 After an image is imported, the image format is automatically checked and scanned. The result obtained from this process is used as the default value of this parameter.
DiskDevice Mapping.n. OSSBucket	String	Yes	The OSS bucket where an image file is stored.
DiskDevice Mapping.n. OSSObject	String	Yes	The name (key) of the OSS object with an image file .
DiskDevice Mapping.n. DiskImageSize	String	No	The size of a custom image. The space of the disk must be larger than or equal to the actual used space of disks. Value range: • When n is set to 1: [5, 500] GiB. • When n is set to [2, 16]: [5, 1000] GiB. When you import an image, the system auto scans and checks the size of the image, and the checking result is used as a default value of this parameter.

Response parameters

Name	Type	Description
RegionId	String	The region ID.
ImageId	String	The image ID.

Name	Type	Description
ImportTaskId	String	The ID of an image import task.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ImportImage
&RegionId=cn-hangzhou
&DiskDeviceMapping.1.OSSBucket=ecsimageos
&DiskDeviceMapping.1.OSSObject=CentOS_5.4_32.raw
&<Common Request Parameters>
```

Response example

XML format

```
<ImportImageResponse>
    <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
    <ImageId>Img-231234567</ImageId>
    <ImportTaskId>123-345-2332-22323</ImportTaskId>
</ImportImageResponse>
```

JSON format

```
{
    "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
    "ImageId": "Img-231234567",
    "ImportTaskId":"123-345-2332-22323"
}
```

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
Forbbiden	User not authorized to operate on the specified resource	400	You cannot import the image now. *Open a ticket* to enable the image import feature.
IncorrectI mageStatus	The specified image is not available.	400	The status of the specified image is incorrect.
InvalidArc hitecture. Malformed	The specified Architecture is wrongly formed.	400	The specified `Architecture` is invalid.

Error code	Error message	HTTP status code	Meaning
InvalidDescription.Malformed	The specified destination image description is wrongly formed.	400	The specified target image `Description` is invalid.
InvalidFormat.Malformed	The specified Image format is wrongly formed.	400	The specified image file format is invalid.
InvalidImageName.Duplicated	The destination image is exist.	400	The value of the specified ImageName already exists.
InvalidImageName.Malformed	The specified destination Image name is wrongly formed.	400	The specified `ImageName` is invalid.
InvalidImageSize	The specified “DiskDeviceMapping.n.DiskImageSize” should be not less than system device size.	400	The value of the specified `DiskDeviceMapping.n.DiskImageSize` must be larger than or equal to the actual used space of disks.
InvalidOSType.Malformed	The specified OSType is wrongly formed.	400	The specified `OSType` is invalid.
InvalidPlatform.Malformed	The specified Platform is wrongly formed.	400	The specified `Platform` is invalid.
MissingParameter	An input parameter “RegionId” that is mandatory for processing the request is not supplied.	400	You must specify the parameter `RegionId`.
MissingParameter	An input parameter “DiskDeviceMapping.n.OSSBucket” that is mandatory for processing the request is not supplied.	400	You must specify the parameter `OSSBucket`.
MissingParameter	An input parameter “DiskDeviceMapping.n.OSSObject” that is mandatory for processing the request is not supplied.	400	You must specify the parameter `OSSObject`.
RegionId.NotFound	The specified region is not found.	400	The `RegionId` of the specified image does not exist.

Error code	Error message	HTTP status code	Meaning
ImageIsImporting	The specified Image is importing.	403	The specified image is being copied. Please try again later.
InvalidRegion.NotSupport	The specified region does not support image import or export.	403	The specified region currently does not support image import.
QuotaExceed.Image	The Image Quota exceeds.	403	You have exceeded the custom images import limit. No more images can be imported.
QuotaExceed.Snapshot	The maximum number of snapshots is exceeded.	403	You have exceeded the snapshot import limit. No more images can be imported.

8.3 CopyImage

Copies a custom image from one region to other regions. You can use the destination image to create instances (***RunInstances***) or replace system disks (***ReplaceSystemDisk***).

Description

When you call this interface, consider the following:

- You can only copy the custom image when it is in the `Available` status.
- You can only copy the image within your Alibaba Cloud account. Coping an image cross accounts is not allowed.
- You cannot delete an image (***DeleteImage***) when copying is in progress. However, you can cancel the copying process (***CancelCopyImage***).

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: CopyImage.
RegionId	String	Yes	ID of the region to which the source custom image belongs. For more information, call ***DescribeRegions*** to obtain the latest region list.

Name	Type	Required	Description
ImageId	String	Yes	ID of the source custom image.
DestinationRegionId	String	Yes	ID of the region to where the destination custom image belongs.
DestinationImageName	String	No	Name of the destination custom image.The name is a string of 2 to 128 characters. It must begin with an English or a Chinese character. It can contain A-Z, a-z, Chinese characters, numbers, periods (.), colons (:), underscores (_), and hyphens (-). Default value: null.
DestinationDescription	String	No	The description of the destination custom image.It cannot begin with http:// or https://. Default value: null.

Response parameters

Name	Type	Description
ImageId	String	ID of the destination custom image.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CopyImage
&DestinationRegionId=cn-hangzhou
&ImageId=m-281234567
&RegionId=cn-qingdao
&<Common request parameters>
```

Response example

XML format

```
<CopyImageResponse>
    <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
    <ImageId>Img-231234567</ImageId>
</CopyImageResponse>
```

JSON format

```
{
    "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
    "ImageId": "Img-231234567"
```

```
}
```

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	Note
DestinationRegion.NotFound	The destination region not found	400	The `DestinationRegionId` does not exist.
IncorrectImageStatus	The image not available.	400	The status of the specified source custom image (`ImageId`) must be `Available`.
InvalidDescription.Malformed	The specified description is wrongly formed.	400	The description of the specified destination custom image (`DestinationDescription`) is invalid.
InvalidImageId.NotFound	The specified ImageId does not exist.	400	The specified source custom image (`ImageId`) does not exist.
InvalidImageName.Duplicated	The destination image does not exist.	400	The name of the destination custom image (`DestinationImageName`) is already in use.
InvalidImageName.Malformed	The specified destination Image name is wrongly formed.	400	The name of the specified destination custom image (`DestinationImageName`) is invalid.
InvalidImageName.Malformed	The specified Image name is wrongly formed.	400	The format of `DestinationImageName` is incorrect.

Error code	Error message	HTTP status code	Note
SourceRegion.NotFound	The source region not found	400	The `RegionId` of the specified source custom image does not exist.
Forbidden	User not authorized to operate on the specified resource.	403	You don't have permissions for copying images.
IncorrectDestinationRegion	The destination region is not equal the target region.	403	The source region for copying images (`RegionId`) must be different from the destination region (`DestinationRegionId`).
InvalidSnapshot.TooOld	This operation is denied because the specified snapshot is created before 2013-07-15.	403	The specified ImageId (`ImageId`) is created on or before July 15, 2013. Please try other images instead.
OperationDeined.EncryptedSnapshot	The image contains encrypted snapshots, which do not support copying.	403	The source custom image (`ImageId`) contains encrypted snapshots, which do not support copying.
OperationDenied.ImageCopying	The specified image is being copied.	403	The specified source custom image (`ImageId`) is being copied. Please try again later.
QuotaExceed.Image	The Image Quota exceeds.	403	No more images will be copied because you have exceeded your custom image quota.
QuotaExceed.Snapshot	The maximum number of snapshots is exceeded.	403	No more images will be copied because

Error code	Error message	HTTP status code	Note
			you have exceeded your snapshot quota.
RegionNotSupportCopy	The region not support copy.	403	The specified region of the destination image (`DestinationRegionId`) does not support image copying.

8.4 DescribeImages

Queries your available images.

Description

When you call this interface, consider the following:

- The displayed image resource list contains your custom images, official images provided by Alibaba Cloud, available images from the marketplace, and shared images from the other Alibaba Cloud users.
- You can query images by pages. The result consists of the total number of available image resources and all the image resources on the current page. By default, 10 images are displayed on one page.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeImages.
RegionId	String	Yes	ID of the region to which an instance belongs. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
ImageId	String	No	The image ID. You can specify multiple image IDs and separate these IDs with commas (`,`).
Status	String	No	The image status. Optional values: • Creating: The image is being created. • Available: Available images. • UnAvailable: Unavailable images. • CreateFailed: Failed images.

Name	Type	Required	Description
			Default value: Available supports obtaining multiple values. These values are separated with commas (`,`) .
SnapshotId	String	No	The ID of the snapshot used to create the image.
ImageName	String	No	The name of the image.
ImageOwnerAlias	String	No	The alias of the image owner. Optional value: • system: Public images provided by Alibaba Cloud . • self: Your custom images. • others: Your images that are shared from other Alibaba Cloud users. • marketplace: Images provided by *marketplace vendorsmarketplace vendors*. You need to pay attention to the charging details of the cloud market image. Default value: null. Null indicates that results of `system`, `self` and `others` are returned.
Usage	String	No	Queries whether the specified image is running on ECS instance or not. Optional values: • instance: The image is running in an ECS instance. • none: The image is not in use.
Tag.n.Key	String	No	The key of a tag. The value range of n is [1, 5]. If you query the images according to tags, the value of Tag.n.Key cannot be a null string.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
PageSize	Integer	No	Sets the number of lines per page for queries per page. Maximum value: 100. Default value: 10.

Name	Type	Required	Description
PageNumber	Integer	否	The current page of the of image list. Default value: 1.
DryRun	Boolean	No	Whether the system performs a permission check only. • true: Sends a permission check request, without performing actual API action. An enabled DryRun checks whether your AccessKey is valid, the authorization status of a RAM user, and whether the required parameters are set. If you do not have the required permissions, a related error response is returned. Otherwise, it is `DryRunOperation`. • False: Sends a normal request, returns the 2XX HTTP status code after the check and queries the resource status directly. Default value: false.

Response parameters

Name	Type	Description
RegionId	String	The region ID of the image.
TotalCount	Integer	The number of items on the list.
PageNumber	Integer	The current page.
PageSize	Integer	The number of items on the current page.
Images	Array	A collection composed of image information *ImageType*.

Examples

Request example

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

Response example

XML format

```
<DescribeImagesResponse>
    <Images>
        <Image>
            <Architecture>i386</Architecture>
```

```
            <CreationTime>2014-07-22T09:53:44Z</CreationTime>
            <Description></Description>
            <DiskDeviceMappings>
                <DiskDeviceMapping>
                    <Device>/dev/xvda</Device>
                    <Size>20</Size>
                    <SnapshotId></SnapshotId>
                </DiskDeviceMapping>
            </DiskDeviceMappings>
            <ImageId>suse11sp3_64_20G_aliaegis_20150428.vhd</ImageId>

            <ImageName>suse11sp3_64_20G_aliaegis_20150428.vhd</
ImageName>
            <ImageOwnerAlias>system</ImageOwnerAlias>
            <ImageVersion>1.0</ImageVersion>
            <IsCopied>false</IsCopied>
            <IsSubscribed>false</IsSubscribed>
            <OSName>SUSE Linux Enterprise Server 11 SP3 64位</OSName>
            <ProductCode></ProductCode>
            <OSType>linux</OSType>
            <Platform>SUSE</Platform>
            <Progress>100</Progress>
            <Size>20</Size>
            <Status>Available</Status>
            <Usage>instance</Usage>
        </Image>
    </Images>
    <PageNumber>1</PageNumber>
    <PageSize>2</PageSize>
    <RegionId>cn-hangzhou</RegionId>
    <TotalCount>24</TotalCount>
    <RequestId>7871BB26-3002-4950-B2E6-98D333077EA5</RequestId>
</DescribeImagesResponse>
```

JSON format

```
{
  "Images": {
    "Image": [
      {
        "Architecture": "x86_64",
        "CreationTime": "2015-05-06T09:01:32Z",
        "DiskDeviceMappings": {
          "DiskDeviceMapping": [
            {
              "Device": "/dev/xvda",
              "Size": "20"
            }
          ]
        },
        "ImageId": "suse11sp3_64_20G_aliaegis_20150428.vhd",
        "ImageName": "suse11sp3_64_20G_aliaegis_20150428.vhd",
        "ImageOwnerAlias": "system",
        "ImageVersion": "1",
        "IsCopied": false,
        "IsSubscribed": false,
        "OSName": "SUSE Linux  Enterprise Server 11 SP3 64位",
        "OSType": "linux",
        "Platform": "SUSE",
        "Progress": "100%",
        "Size": 20,
```

```
        "Status": "Available",
        "Usage": "instance"
      }
    ]
  }
  "PageNumber": 1,
  "PageSize": 1,
  "RegionId": "cn-hangzhou",
  "RequestId": "49CBCED4-C9B9-4851-BEB5-8FB5E5169E30",
  "TotalCount": 24
}
```

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
Invalidimagеowneralias. valuenotsupported	The specified ImageOwnerAlias value is not supported.	400	Invalid `ImageOwnerAlias` value.
Invalidtag.Mismatch	The specified Tag.n.Key and Tag.n.Value are not match.	400	The key (`Tag.n.Key`) and value (`Tag.n.Value`) of the tag must be key-value matched.
InvalidTagCount	The specified tags are beyond the permitted range.	400	You can specify a maximum of five tags.
InvalidUsage	The specifed Usage is not valid	404	The specified `Usage` parameter is invalid.

9 Snapshots

9.1 CreateSnapshot

Creates a snapshot for a specified disk device.

Description

When you call this interface, consider the following:

- The maximum number of snapshots you can create for a disk is 64.
- The ECS instance to which the specified disk is attached must be in the **Stopped** (`Stopped`) or **Running** (`Running`) status.
- The disk must be attached to an instance.
- If a new instance to which the specified disk is attached has never been started, you cannot create a snapshot.
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `LockReason: "security"`, a snapshot cannot be created.
- When you are creating ECS instances (***`RunInstances`***), replacing the system disk (***`ReplaceSystemDisk`***) or creating data disks (***`CreateDisk`***), snapshots cannot be created because the data initialization has not yet been completed. After creating instances or replacing the system disk, you can create a snapshot one hour later. The time it takes to create a snapshot for a new disk depends on the size of the disk data.
- If the CreateSnapshot task is not completed, you cannot create another snapshot of the same disk.
- If the CreateSnapshot task is not completed, this snapshot cannot be used to create a custom image (***`CreateImage`***).

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: CreateSnapshot.
DiskId	String	Yes	Disk ID.
SnapshotName	String	No	The name of a snapshot. • Length: [2, 128] English letters or Chinese characters.

Name	Type	Required	Description
			• Must begin with an uppercase or lowercase English letter. Can contain digits, underscores (_), colons (:), or hyphens (-). • Cannot begin with *auto* , because snapshot names starting with `auto` are recognized as automatic snapshots. • Cannot begin with http:// or https://.
Description	String	No	Description of the snapshot. • Can contain [2, 256] characters in length. • You cannot start with http:// and https://. Default: empty
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client. It must be unique among all requests and contain a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Return parameters

Name	Type	Description
SnapshotId	String	The snapshot ID.

Example

Request example

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

Response sample

XML format

```
<CreateSnapshotResponse>
        <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
        <SnapshotId>s-923FE2BF0</SnapshotId>
</CreateSnapshotResponse>
```

JSON format

```
{
    "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
    "SnapshotId": "s-923FE2BF0"
}
```

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
DiskCategory.OperationNotSupported	The operation is not supported to the specified disk due to its disk Category	400	You cannot create a snapshot for the specified disk because of its category.
IncorrectInstanceStatus	The current status of the resource does not support this operation.	400	The instance of disk Mount must be in **Stopped** (`Stopped`), or **Running** (`Running`) status.
InvalidSnapshotName.Malformed	The specified SnapshotName is wrongly formed.	400	The specified `SnapshotName` is invalid.
CreateSnapshot.Failed	The process of creating snapshot failed.	403	Snapshot creation has failed.
DiskId.ValueNotSupported	The specified parameter diskid is not supported.	403	You cannot create snapshots for the specified `DiskId`.
DiskInArrears	The specified operation is denied as your disk has expired.	403	The disk has an overdue payment. Try again after your clear your overdue payment.

Error code	Error message	HTTP status code	Description
IncorrectDiskStatus	The current disk status does not support this operation.	403	The specified disk must be in the **In_use** (`In_use`) status.
IncorrectDiskStatus.CreatingSnapshot	A previous snapshot creation is in process.	403	A snapshot for the specified disk is being created. Please try again later.
IncorrectDiskStatus.NeverAttached	The specified disk has never been attached to any instance.	403	The disk must have been attached to an instance.
IncorrectDiskStatus.NeverUsed	The specified disk has never been used after creating.	403	The disk has not been used and the snapshot cannot be created.
InstanceLockedForSecurity	The disk attached instance is locked due to security.	403	The specified instance has been locked for security.
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 activated the service. Please open a *ticket* to activate it.
QuotaExceed.Snapshot	The maximum number of snapshots is exceeded.	403	You have exceeded the snapshot creation limit. The maximum number of snapshots you can create for a disk is 64.
InvalidDescription.Malformed	The specified description is wrongly formed.	404	The specified target image `Description` is invalid.
InvalidDiskId.NotFound	The specified DiskId does not exist.	404	The specified disk does not exist.

9.2 ApplyAutoSnapshotPolicy

Applies automatic snapshot policies to one or more disks. If an automatic snapshot policy has been applied to a disk, **`ApplyAutoSnapshotPolicy`** can change the automatic snapshot policy for the specified disks.

Description

When you call this interface, consider the following:

- One disk can be applied to only one automatic snapshot policy.
- You can apply an automatic snapshot policy to multiple disks.
- A short queuing waiting time exists if many automatic snapshot tasks at a certain time point exist. Consequently, the automatic snapshot tasks scheduled at the same time cannot be carried out simultaneously.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value : ApplyAutoSnapshotPolicy.
RegionId	String	Yes	The region ID of the automatic snapshot policy and the disks. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
Autosnapshotpolicyid	String	Yes	The ID of the automatic snapshot policy. You can call DescribeAutoSnapshotPolicyEx to obtain all of your automatic snapshot policy IDs.
DiskIds	String	Yes	The disk ID. When you want to apply the automatic snapshot

Name	Type	Required	Description
			policy to multiple disks, you can set the DiskIds to an array. The format is a JSON array of ["d-xxxxxxxxx", "d-yyyyyyyyy", … "d-zzzzzzzzz"] and the IDs are separated by commas (,).

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ApplyAutoSnapshotPolicy
&RegionId=cn-hangzhou
&AutoSnapshotPolicyId=p-233e6ylv0
&DiskIds=["d-233e6ylv0", "d-23vbpbi03", "d-23vasz3ds"]
&<Common Request Parameters>
```

Response example

XML format

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

JSON format

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

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
DiskCategory.OperationNotSupported	The type of the specified disk does	400	You cannot apply automatic policy to a local disk. For more

Error code	Error message	HTTP status code	Description
	not support creating a snapshot.		information, see *Local disks*.
DiskCategory.OperationNotSupported	The types of some disks in the disk list do not support creating snapshots.	400	IDs of local disks exist in the `DiskIds`.
ParameterInvalid	The specified automatic snapshot policy does not exist.	404	The specified `AutoSnapshotPolicyId` does not exist.
ParameterInvalid	The specified automatic snapshot policy does not exist in the region.	404	The specified `AutoSnapshotPolicyId` does not exist in the specified region.
ParameterInvalid	The specified AutoSnapshotPolicyId parameter is invalid.	404	The specified `AutoSnapshotPolicyId` is invalid.
ParameterInvalid	The specified DiskIds are invalid.	404	The specified `DiskIds` are invalid.
ParameterInvalid	The specified RegionId parameter is invalid.	404	The specified `RegionId` is invalid.

9.3 DescribeSnapshots

Queries one or more of your available snapshots. `InstanceId`, `DiskId`, and `SnapshotIds` are not required. However, they act as a filter. Logically, they are in an `And` relation.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeSnapshots.
RegionId	String	Yes	The Region ID of snapshot.
InstanceId	String	No	The specified instance ID.
DiskId	String	No	The specified instance ID.

Name	Type	Required	Description
Encrypted	Boolean	No	Queries the encrypted snapshots. Optional values: • true: Encrypted snapshots. • false: No encryption attribute limit. Default value: false.
SnapshotIds	String	No	The Snapshot ID. The value can contain arrays of up to 10 snapshot IDs. The IDs are displayed in the format of ["s-xxxxxxxxx", "s-yyyyyyyyy", … "s-zzzzzzzzz"] and separated by commas (`,`).
SnapshotName	String	No	The snapshot name.
Status	String	No	The snapshot status. Optional values: • progressing: The snapshots are being created. • accomplished: The snapshots are ready to use. • failed: The snapshot creation failed. • all: All status. Default value: all.
SnapshotType	String	No	The snapshot category. Optional values: • auto: Auto snapshots. • user: Manual snapshots. • all: Auto and manual snapshots. Default value: all.
SourceDiskType	String	No	Whether the snapshots are created for system disks or data disks. Optional values: • System: The snapshots are created for system disks. • Data: The snapshots are created for data disks.
Usage	String	No	Whether the snapshots are used to create resources or not. Optional values: • image: The snapshots are used to ***create custom images***. • disk: The snapshots are used to ***CreateDisk***. • mage_disk: The snapshots are used to create custom images and data disks. • none: The snapshots are not used yet.

Name	Type	Required	Description
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
PageNumber	Integer	No	Displays the snapshots on several pages. Start value: 1. Default value: 1.
PageSize	Integer	No	The maximum entries on a page. Maximum value: 100. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	The total number.
PageNumber	Integer	The page number of the list.
PageSize	Integer	The number of lines per page set during input.
Snapshots	*SnapshotType*	A collection composed of snapshot details SnapshotType .

Examples

Request example

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

Response example

XML format

```
<DescribeSnapshotsResponse>
    <Snapshots>
        <Snapshot>
            <CreationTime>2014-07-24T13:00:52Z</CreationTime>
            <Description></Description>
            <SourceDiskId>d-23x0r79qy</SourceDiskId>
```

```
            <SourceDiskType>DATA</SourceDiskType>
            <ProductCode></ProductCode>
            <SnapshotName>auto_20140724_2</SnapshotName>
            <Progress>100%</Progress>
            <SourceDiskSize>50</SourceDiskSize>
            <Status>accomplished</Status>
            <SnapshotId>s-23f2i9s4t</SnapshotId>
            <Usage>none</Usage>
        </Snapshot>
        <Snapshot>
            <CreationTime>2014-07-24T13:00:42Z</CreationTime>
            <Description></Description>
            <SourceDiskId>101-70105379</SourceDiskId>
            <SourceDiskType>DATA</SourceDiskType>
            <ProductCode></ProductCode>
            <SnapshotName>auto_20140724_2</SnapshotName>
            <Progress>100%</Progress>
            <SourceDiskSize>5</SourceDiskSize>
            <Status>accomplished</Status>
            <SnapshotId>s-23izto5qm</SnapshotId>
            <Usage>none</Usage>
        </Snapshot>
    </Snapshots>
    <PageNumber>1</PageNumber>
    <PageSize>2</PageSize>
    <TotalCount>36</TotalCount>
    <RequestId>2F409D67-329A-4405-B924-2FC28566B366</RequestId>
</DescribeSnapshotsResponse>
```

JSON format

```
{
  "PageNumber": 1,
  "PageSize": 2,
  "RequestId": "659F91C6-1949-43B0-90C4-B6342CA757D5",
  "Snapshots": {
    "Snapshot": [
      {
        "CreationTime": "2015-07-30T05:00:14Z",
        "Progress": "100%",
        "SnapshotId": "s-943ypfgic",
        "SnapshotName": "auto_20150730_3",
        "SourceDiskId": "d-944qyqjfa",
        "SourceDiskSize": 20,
        "SourceDiskType": "system",
        "Status": "accomplished",
        "Usage": "none"
      },
      {
        "CreationTime": "2015-07-30T05:00:14Z",
        "Progress": "100%",
        "SnapshotId": "s-94osg320e",
        "SnapshotName": "auto_20150730_3",
        "SourceDiskId": "d-94j355jsq",
        "SourceDiskSize": 20,
        "SourceDiskType": "system",
        "Status": "accomplished",
        "Usage": "none"
      }
    ]
  },
```

```
  "TotalCount": 36
}
```

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
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 a matched key-value.
InvalidTagCount	The specified tags are beyond the permitted range.	400	The maximum number of the Tag.n.Key and Tag.n.Value is 5.
InvalidSnapshotIds.Malformed	The amount of specified specified snapshot Ids exceeds the limit.	403	The value of the specified `SnapshotIds` is incorrect.
InvalidSnapshotType.NotFound	The specfied SnapshotType is not found.	404	The specified `SnapshotType` does not exist.
InvalidSourceDiskType	The specifed SourceDiskType is not valid.	404	The specified `SourceDiskType` is invalid.
InvalidStatus.NotFound	The specified Status is not found.	404	The specified `Status` is invalid.
InvalidUsage	The specifed Usage is not valid.	404	The specified `Usage` is invalid.

9.4 DescribeSnapshotLinks

Describes the snapshot chains of one or more disks. A snapshot chain is a chain of all the snapshots of a disk, and a disk corresponds to a chain of snapshots, so the snapshot chain ID is the disk ID.

Description

When you call this interface, consider the following:

- Request parameters, such as `RegionId`, `DiskIds` and `InstanceId`, act as a filter. A logical AND relation exists among parameters.
- If no parameter is specified, the filter does not take effect. When `DiskIds` and `SnapshotLinkIds` are empty array (`[]`), the filter still takes effect, but a null result is returned.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeSnapshotLinks.
RegionId	String	Yes	Region ID of the instance. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
InstanceId	String	No	The instance ID.
Diskids	String	No	Disk ID. The disk ID. You can specify a maximum of 100 disk IDs each time. The value of `DiskIds` is a JSON array of which the format is displayed as ["d-xxxxxxxxx", "d-yyyyyyyyy", … "d-zzzzzzzzz"], IDs are separated by commas (,).
SnapshotLinkIds	String	No	The snapshot chain ID. The snapshot chain ID. You can specify a maximum of 100 snapshot chain IDs each time. The value of `SnapshotLinkIds` is a JSON array of which the format is displayed

Name	Type	Required	Description
			as ["p-xxxxxxxxx", "p-yyyyyyyyy", … "p-zzzzzzzzz"], IDs are separated by a half-angle comma.
PageNumber	Integer	No	Page number of a disk status list. Initial value: 1. Default value: 1.
PageSize	Integer	No	The maximum entries on a page. Value range: [1, 50]. Default value: 10.

Return parameters

Name	Type	Description
RegionId	String	Region ID of the snapshot chain.
TotalCount	Integer	Total number of snapshot chains.
PageNumber	Integer	Page number of the snapshot chain list.
PageSize	Integer	Number of lines per page set during input.
SnapshotLinks	*SnapshotLinkType*	A set that consists of snapshot chain information.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeSnapshotLinks
&RegionId=cn-beijing
&ZoneId=cn-beijing-btc-a01
&PageNumber=1
&<Common parameter request>
```

Response example

XML format

```
<DescribeSnapshotLinksResponse>
    <SnapshotLinks>
        <SnapshotLink>
            <SnapshotLinkId>d-25okbh2pj</SnapshotLinkId >
            <SourceDiskId>d-25okbh2pj</SourceDiskId>
            <SourceDiskType>data</SourceDiskType>
            <SourceDiskSize>20</SourceDiskSize>
            <RegionId> cn-beijing-btc-a01</RegionId>
            <TotalCount>1</TotalCount>
            <TotalSize>2097152</TotalSize>
        </SnapshotLink>
        <SnapshotLink>
            <SnapshotLinkId>d-2ze0y1jwzpb1geqxkroq</SnapshotLinkId >
            <SourceDiskId>d-2ze0y1jwzpb1geqxkroq</SourceDiskId>
            <SourceDiskType>system</SourceDiskType>
            <SourceDiskSize>40</SourceDiskSize>
            <RegionId> cn-beijing-btc-a01</RegionId>
            <TotalCount>1</TotalCount>
            <TotalSize>2097152</TotalSize>
         </SnapshotLink>
    </SnapshotLinks>
    <PageNumber>1</PageNumber>
    <PageSize>2</PageSize>
    <TotalCount>9</TotalCount>
    <RequestId>ED5CF6DD-71CA-462C-9C94-A61A78A01479</RequestId>
</DescribeSnapshotLinksResponse>
```

JSON format

```
{
    "SnapshotLinks": {
    "SnapshotLink": [
    {
        "SourceDiskSize": 20,
        "TotalSize": 2097152,
        "SourceDiskType": "data",
        "RegionId": "cn-beijing-btc-a01",
        "SnapshotLinkId": "d-25okbh2pj",
        "SourceDiskId": "d-25okbh2pj",
        "TotalCount": 1
    },
    {
        "SourceDiskSize": 40,
        "TotalSize": 2097152,
        "SourceDiskType": "data",
        "RegionId": "cn-beijing-btc-a01",
        "SnapshotLinkId": "d-2ze0y1jwzpb1geqxkroq",
        "SourceDiskId": "d-2ze0y1jwzpb1geqxkroq",
        Totalcount: 1
    }
    ]
    },
    "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 error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Note
InvalidDiskIds	The specified diskIds is invalid.	400	The specified `DiskIds` is invalid.
InvalidRegionId	The specified regionId is invalid.	400	The specified `RegionId` parameter is invalid.
InvalidSnapshotLinkIds	The specified snapshotLinkIds is invalid.	400	The specified `SnapshotLinkIds` is invalid.
InternalError	The request processing has failed due to some unknown error.	500	Internal error.

9.5 ModifyAutoSnapshotPolicyEx

Creates an automatic snapshot policy. After you modify an automatic snapshot policy, the new policy takes effect immediately on the disks that have previously applied the policy.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ModifyAuto SnapshotPolicyEx.
RegionId	String	Yes	The region ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
AutoSnapshotPolicyId	String	Yes	The ID of the automatic snapshot policy. You can call ***DescribeAutoSnapshotPolicyE*** to view all your

Name	Type	Required	Description
			automatic snapshot policies.
AutoSnapshotPolicyName	String	No	The name of the automatic snapshot policy. Default value: null.
TimePoints	String	No	The automatic snapshot creation time, and the unit of measurement is hour. Value range: [0, 23], which represents from 00:00 to 24:00, for example `1` indicates 01:00. When you want to schedule multiple automatic snapshot tasks for a disk in a day, you can set the TimePoints to an array. • A maximum of 24 time points can be selected. • The format is similar to ["0", "1", … "23"] JSON array and the time points are separated by commas (`,`).
RepeatWeekdays	String	No	The automatic snapshot repetition dates. The unit of measurement is a day and the repeating cycle is a week. Value range: [1, 7], for example `1` indicates Monday. When you

Name	Type	Required	Description
			want to schedule multiple automatic snapshot tasks for a disk in a week, you can set the RepeatWeekdays to an array. • A maximum of seven time points can be selected. • The format is ["1", "2", … "7"] JSON array and the time points are separated by commas (`,`).
RetentionDays	Integer	No	The snapshot retention time, and the unit of measurement is day. Optional values: • -1: Permanent saved. • [1, 65536]: The number of days retained. Default: -1.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client. It must be unique among all requests and contains a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

All are common parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyAutoSnapshotPolicyEx
&RegionId=cn-hangzhou
&AutoSnapshotPolicyId=p-233e6ylv0
&SettingTimePoints=[“0”, “11”, “21”]
&SettingRepeatWeekdays=[“1”, “2”, “4”, “7”]
&RetentionDays=30
&<Common Request Parameters>
```

Response example

XML format

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

JSON format

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

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Note
ParameterInvalid	The specified automatic snapshot policy does not exist.	404	The specified `AutoSnapshotPolicyId` does not exist.
ParameterInvalid	The specified automatic snapshot policy does not exist in the region.	404	The specified `AutoSnapshotPolicyId` does not exist in the specified region.
ParameterInvalid	The specified AutoSnapshotPolicyId is invalid.	404	The specified `AutoSnapshotPolicyId` is not legal.

Error code	Error message	HTTP status code	Note
ParameterInvalid	The specified RegionId parameter is invalid.	404	The specified `RegionId` is not valid.

10 Security groups

10.1 CreateSecurityGroup

Creates a security group. For a new security group, only the access permission for instances within the security group is allowed by default, and access permission to other instances outside the group is restricted. If you want to accept requests from the Internet or requests of instances from other security groups, you can call ***AuthorizeSecurityGroup*** to allow the requests.

Description

When you call this interface, consider the following:

- You can create 100 security groups at most.
- `VpcId` must be specified if you are creating a VPC-Connected security group.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: CreateSecurityGroup.
RegionId	String	Yes	The region ID to which the security group belongs. For more information, call ***DescribeRegions*** to obtain the latest region list.
SecurityGroupName	String	No	The security group name. • Can contain [2, 128] characters in length. Must begin with an uppercase or lowercase English letter, or a Chinese character. Can contain digits , periods (.), colons (:), underscores (_), and hyphens (-). • Cannot begin with http:// or https://. Default: empty.
Description	String	No	The description of the security group. • Can contain [2, 256] characters in length. • You cannot start with http: // and https://. Default: null.
VpcId	String	No	The VPC ID to which the security group belongs.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It

Name	Type	Required	Description
			can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client. It must be unique among all requests and contains a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
SecurityGroupId	String	The ID of the security group.

Examples

Request example

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

Response example

XML format

```
<CreateSecurityGroupResponse>
    <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
    <SecurityGroupId>sg-F876FF7BA</SecurityGroupId>
</CreateSecurityGroupResponse>
```

JSON format

```
{
    "RequestId":"CEF72CEB-54B6-4AE8-B225-F876FF7BA984",
    "SecurityGroupId":"sg-F876FF7BA"
}
```

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
IncorrectVpcStatus	Current VPC status does not support this operation.	400	The specified VPC is either being created, edited, or deleted. Please try again later.
InvalidDescription.Malformed	The specified parameter “Description” is not valid.	400	The specified `Description` is invalid.
InvalidSecurityGroupDiscription.Malformed	Specified security group description is not valid.	400	The specified `Description` is invalid.
InvalidSecurityGroupName.Malformed	Specified security group name is not valid.	400	The specified `SecurityGroupName` is invalid.
InvalidVpcId.NotFound	vpc id must not empty when only support vpc vm.	403	The `VpcId` must be specified if you are creating a VPC-Connected security group.
QuotaExceed.SecurityGroup	The maximum number of security groups is reached.	403	You can create 100 security groups at most.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.
InvalidVpcId.NotFound	Specified VPC does not exist.	404	The specified VPC does not belong to you.

10.2 DescribeSecurityGroups

Describes the basic information about your security groups, such as the security group ID and description. We return and display your security groups in a descending order by the security group ID.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeSecurityGroups.
RegionId	String	Yes	Regional ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
VpcId	String	No	The ID of the VPC to which the security groups belong.
SecurityGroupIds	Array	No	Security group ID set. A maximum of 100 ID are supported, in the format of ["sg-Id1", "sg-Id2", "sg-Id3"…].
Tag.n.Key	String	No	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	No	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
PageNumber	Integer	No	Displays the security groups on several pages. Initial value: 1. Default value: 1.
PageSize	Integer	No	The maximum entries on a page. Maximum value: 50. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	The total number of security groups.
PageNumber	Integer	Current page number.

Name	Type	Description
PageSize	Integer	The number of entries on each page.
RegionId	String	The region ID.
SecurityGroups	*SecurityGroupItemType*	The security group information, composed by a SecurityGroupItemType collection.

Examples

Request example

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

Return example

XML format

```
<DescribeSecurityGroupsResponse>
    <RequestId>94D38899-626D-434A-891F-7E1F77A81525</RequestId>
    <TotalCount>4</TotalCount>
    <PageNumber>1</PageNumber>
    <PageSize>10</PageSize>
    <RegionId>cn-hangzhou</RegionId>
    <SecurityGroups>
        <SecurityGroup>
            <SecurityGroupId>sg-F876FF7BA</SecurityGroupId>
            <Description>Test</Description>
        </SecurityGroup>
        <SecurityGroup>
            <SecurityGroupId>sg-086FFC27A</SecurityGroupId>
            <Description>test00212</Description>
        </SecurityGroup>
        <SecurityGroup>
            <SecurityGroupId>sg-BA4B7975B</SecurityGroupId>
            <Description>cn-hangzhou test group</Description>
        </SecurityGroup>
        <SecurityGroup>
            <SecurityGroupId>sg-35F20777C</SecurityGroupId>
            <Description>cn-hangzhou test group</Description>
        </SecurityGroup>
    </SecurityGroups>
</DescribeSecurityGroupsResponse>
```

JSON format

```
{
    "RequestId": "94D38899-626D-434A-891F-7E1F77A81525",
    "TotalCount": 4,
    "PageSize": "10",
    "RegionId": "cn-hangzhou",
    "PageNumber": "1",
    "SecurityGroups": {
        "SecurityGroup": [{
```

```
            "SecurityGroupId": "sg-F876FF7BA",
            "Description": "TestByXcf"
        },
        {
            "SecurityGroupId": "sg-086FFC27A",
            "Description": "test00212"
        },
        {
            "SecurityGroupId": "sg-BA4B7975B",
            "Description": "cn-hangzhou test group"
        },
        {
            "SecurityGroupId": "sg-35F20777C",
            "Description": "cn-hangzhou test group"
        }]
    }
}
```

Error codes

All are common response parameters. See *Common response parameters*.

10.3 DescribeSecurityGroupReferences

Queries whether a specified security group has access permission to other security group or not.

Description

When you call this interface, consider the following:

- To authorize a security group includes the inbound rules authorization and the outbound rules authorization.
- A maximum 100 entries of authorization record can be queried per invocation.
- When you fail to delete one security group (***DeleteSecurityGroup***), you can call this interface to make sure whether a specified security group has been authorized by other security group or not. If the security group to be deleted is authorized by another security groups, you must withdraw the authorization before the deletion action.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeSecurityGroupReferences.
SecurityGroupId.n	String	Yes	The ID of a security group. The value range of n is [1, 10].

Name	Type	Required	Description
RegionId	String	Yes	The region to where the security group belongs. You can call ***DescribeRegions*** to obtain the latest region list.

Response parameters

Name	Type	Description
SecurityGroupReferences	*SecurityGroupReference*	Information of the security group authorization.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeSecurityGroupReferences
&RegionId=cn-hangzhou
&SecurityGroupId.1=sg-1133aa
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeSecurityGroupReferencesResponse>
    <RequestId>CEF72CEB-54B6-4AE8-B225-F876FF7BA984</RequestId>
    <SecurityGroupReferences>
      <SecurityGroupReference>
        <SecurityGroupId>sg-1133aa</SecurityGroupId>
        <ReferencingSecurityGroups>
          <ReferencingSecurityGroup>
            <SecurityGroupId>sg-2255cc</SecurityGroupId>
            <AliUid>123</AliUid>
          </ReferencingSecurityGroup>
          <ReferencingSecurityGroup>
            <SecurityGroupId>sg-2255dd</SecurityGroupId>
            <AliUid>123</AliUid>
          </ReferencingSecurityGroup>
        </ReferencingSecurityGroups>
      </SecurityGroupReference>
    </SecurityGroupReferences>
</DescribeSecurityGroupReferencesResponse>
```

JSON format

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

```
            "SecurityGroupId":"sg-1133aa",
            "SecurityReferencingGroups":[
                {
                    "AliUid":123,
                    "SecurityGroupId":"sg-2255cc"
                },
                {
                    "AliUid":123,
                    "SecurityGroupId":"sg-2255dd"
                }
            ]
        }
    ]
}
```

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
Abs.GroupNos.Malformed	The specified parameter SecurityGroupId is essential and size should less than 10.	400	You must specify the `SecurityGroupId.n` parameter. Or the `n` in the `SecurityGroupId.n` cannot exceed 10.
InvalidSecurityGroupId.NotFound	The specified SecurityGroupId does not exist.	400	The specified security group ID does not exist.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

10.4 ModifySecurityGroupPolicy

Modifies the intranet communication policy of a security group.

Description

When you call this interface, consider the following:

- If the `InnerAccessPolicy` property of a security group is set to `Accept`, all the instances in the security group can always communicate with each other. The `Accept` policy has a high priority and other manual modification is ignored.
- If the `InnerAccessPolicy` property of a security group is set to `Drop`, all the instances in the security group is blocked from communication. However, you can add rules by calling the ***`AuthorizeSecurityGroup`*** to enable the intranet communication among several instances.

- You can query the intranet communication status of a security group by calling the ***DescribeSecurityGroupAttribute***.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ModifySecurityGroupPolicy.
SecurityGroupId	String	Yes	ID of a security group.
RegionId	String	Yes	ID of the region to where a specified security group belongs. For more information, call ***DescribeRegions*** to obtain the latest region list.
InnerAccessPolicy	String	Yes	The intranet communication status of a security group. Optional values: • Accept: All the instances in the specified security group can communicate with each other. • Drop: The intranet communication in the specified security group is blocked. The values are case insensitive.

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifySecurityGroupPolicy
&RegionId=cn-hangzhou
&SecurityGroupId=sg-1133aa
&InnerAccessPolicy=Drop
&<Common Request Parameters>
```

Response example

XML format

```
<ModifySecurityGroupPolicyResponse>
    <RequestId>CEF72CEB-54B6-4AE8-B225-F876xxxxxxxx</RequestId>
</ModifySecurityGroupPolicyResponse>
```

JSON format

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

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
InvalidPolicy.Malformed	The InnerAccessPolicy is invalid. Only Accept and Drop are supported.	400	You must specify the `InnerAccessPolicy`. Or the specified parameter is invalid.
InvalidSecurityGroupId.Malformed	The SecurityGroupId is invalid. Only letters, numbers and underscores are supported. Maximum length is 100 characters.	400	You must specify the `SecurityGroupId`. Or the specified parameter is invalid.
InvalidRegionId.NotFound	The RegionId provided does not exist.	404	The specified `RegionId` does not exist.

10.5 ModifySecurityGroupRule

Modify the inbound rules of the security group. You can only modify the description information of the security group rules. If you have not added a security group rule, you can call ***AuthorizeSecurityGroup***.

Description

Any of the following sets of parameters can determine a Security Group Entry direction rule, specifying only one parameter cannot determine a security group rule.

- Authorize assignment of IP Access to address segments: `IpProtocol`, `PortRange`, (optional) `SourcePortRange`, `NicType`, `Policy`, `DestCiderIp` and (optional) `SourceCidrIp`
- Authorize access to other security groups: `IpProtocol`, `PortRange`, (optional) `SourcePortRange`, `NicType`, `Policy`, (optional)`DestCiderIp`, `DestGroupOwnerAccount` and `DestGroupId`

Request parameters

Name	Type	Required	Description
Action	String	Yes	Required parameter. Value: ModifySecurityGroupRule
RegionId	String	Yes.	Region ID of the destination security group. See Regions and zones or ***DescribeRegions*** to query the RegionId list.
SecurityGroupId	String	Yes.	Source security group ID.
Description	String	Yes.	Either the SourceGroupId or SourceCidrIp must be specified. If both SourceGroupId and SourceCidrIp are set, SourceCidrIp is authenticated by default.

Name	Type	Required	Description
IpProtocol	String	Yes.	IP protocol. Not case sensitive. Optional values: • icmp • gre • tcp • udp • all: Support four protocols at the same time
Portrange	String	Yes.	Range of the port numbers of a specific IP protocol. value: • TCP/UDP: 1/65535 . Use the slash (/) to separate the starting and ending ports. For example, `1/200` indicates that the range of the port numbers is [1, 200], and an error returns if you specify TCP/UDP to `200/1`. • ICMP: -1/-1 • GRE: -1/-1 • All: -1/-1
SourcePortRange	String	No	Port ranges associated with the transport layer protocol that the source security group is open. Scope of value: • TCP/UDP protocol: range of values [1, 65535] . Use the slash (/) to separate

Name	Type	Required	Description
			the starting and ending ports. Demonstration: `1/200`; error Demonstration: `200/1`. • ICMP protocol:-1/-1. • GRE Protocol:-1/-1. • All:-1/-1.
Nictype	String	No	Network type. value: • internet • intranet In mutual security group authorization, when `DestGroupId` is specified and `DestCidrIp`is not specified, you must set `NicType` to intranet. `intranet`. Default value: internet
Policy	String	No	Authorization policy. Optional values: • accept: access accepted • drop: access denied Default value: accept
DestCidrIp	String	No	Destination IP address range. Supports IP address ranges in CIDR and IPv4 formats. Default: 0.0.0.0/0
SourceCidrIp	String	No	Source IP address range. The IP range must be specified in

Name	Type	Required	Description
			CIDR format. Default value: 0.0.0.0/0
SourceGroupId	String	No	Source security group ID. Either the `SourceGroupId`Settings or `SourceCidrIp` must be specified. If this parameter is specified but `SourceGroupId` is not specified `SourceCidrIp`, you can only set `NicType` to `intranet`. If both `SourceGroupId` and `SourceCidrIp` are set, `SourceCidrIp` is authenticated by default.
SourceGroupOwnerAccount	String	No	Alibaba Cloud account ID of the source security group. This parameter is applicable in cross-user security group authorization. • If neither this parameter nor `SourceGroupOwnerAccount` `SourceGroupOwnerID` are set, authorization is performed for security groups of the same account. • If `SourceCidrIp` is specified. `SourceGroup`

Name	Type	Required	Description
			`pOwnerAccount` is invalid.
SourceGroupOwnerId	String	No	Alibaba Cloud account ID of the source security group. This parameter is applicable in cross-user security group revocation. • If neither this parameter nor `SourceGroupOwnerAccount` `SourceGroupOwnerAccount` are set, authorization is performed for security groups of the same account. • If `SourceCidrIp` is specified. `SourceGroupOwnerAccount` is invalid.
Priority	String	No	Authorization policy priority. Value range: [1, 100].

Response parameters

All are common response parameters. For more information, see *Common Request Parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifySecurityGroupRule
&SecurityGroupId=sg-F876FF7BA
&SourceGroupId=sg-1651FBB64
&SourceGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=80/80
&Policy=allow
```

```
&Description=This is a new security group rule.
&<Common Request Parameters>
```

Response example

XML format

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

JSON format

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

Error codes

The following error codes are specific to this interface. For more error codes, visit the *API API error center*.

Error code	Error information	HTTP status code	Description
InvalidIpProtocol.Malformed	The specified parameter “IpProtocol ” is not valid.	400	The specified `IpProtocol` is not valid.
InvalidNicType.Mismatch	Specified nic type conflicts with the authorization record.	400	The specified network type`NicType`does not match the security group rule.
InvalidNicType.ValueNotSupported	The specified NicType does notexist.	400	The specified `NicType` does not exist.
InvalidPolicy.Malformed	The specified parameter “Policy” is not valid.	400	The specified Parameter `Policy` is invalid.
InvalidPriority.Malformed	The specified parameter “Priority” is not valid.	400	The specified `Priority` is invalid.
InvalidPriority.ValueNotSupported	The specified Priority isinvalid.	400	The specified `Priority` is invalid.
InvalidSecurityGroupDiscription.Malformed	The specified security group rule description is not valid.	400	The description Description of

Error code	Error information	HTTP status code	Description
			`Description` is invalid.
InvalidSourceCidrIp.Malformed	The specified parameter “SourceCidrIp” is not valid.	400	The specified `SourceCidrIp` is invalid.
InvalidSourceGroup.NotFound	The specified SourceGroupId does not exist.	400	The specified `SourceGroupId` does not exist.
InvalidSourceGroupId.Mismatch	Specified security group and source group are not in the same VPC.	400	The specified security group and source security group do not belong to the same VPC.
OperationDenied	The specified IpProtocol does not exist or IpProtocol and PortRange do not match.	400	The specified `IpProtocol` does not exist. or the IP protocol does not match the port.
InvalidNetworkType.Mismatch	The specified SecurityGroup network type should be same with SourceGroup network type (vpc or classic).	403	The network types of the two security groups must be the same..
InvalidParamter.Conflict	The specified SecurityGroupId should be different from the SourceGroupId.	403	`SecurityGroupId` `SourceGroupId` cannot have the same value.
InvalidSourceGroupId.Mismatch	NicType is required or NicType expects intranet.	403	`NicType` needs to be defined. `NicType` must be `intranet`.
MissingParameter	The input parameter “SourceGroupId” or “SourceCidrIp” cannot be both blank.	403	`SourceGroupId` or `SourceCidrIp` must be specified.

Error code	Error information	HTTP status code	Description
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.
InvalidSecurityGroupId.NotFound	The specified SecurityGroupId does not exist.	404	The specified `SecurityGroupId` does not exist.
InvalidSourceGroupId.NotFound	The SourceGroupId provided does not exist in our records.	404	The specified `SourceGroupId` does not exist.

11 SSH key pairs

11.1 CreateKeyPair

Creates an SSH key pair. We keep the public key and return the unencrypted PEM encoded PKCS #8 private key for you to save. For more information, see *SSH key pairs*.

Description

Apart from calling the **`CreateKeyPair`**, you can create your key pair by using other key pair generators and upload it (***`ImportKeyPair`***) to one of the Alibaba Cloud regions.

You can create up to 500 key pairs in each Alibaba Cloud region.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: createkeypair
RegionId	String	Yes	The ID of the region to which the key pair belongs. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
KeyPairName	String	Yes	The name of the key pair. The name must be unique. • Can be [2, 128] characters in length. • Must begin with an uppercase or lowercase English letter. Can contain digits, underscores (_), colons (:), or hyphens (-). • Supports all character set encoding formats. • Cannot begin with http:// or https://.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Return parameters

Name	Type	Description
KeyPairName	String	Key pair name.
KeyPairFingerPrint	String	Fingerprint of the key pair. The public key fingerprint format is defined in RFC4716 and uses the MD5 message digest algorithm. For more information, see *RFC4716*.
PrivateKeyBody	String	The private key of a key pair. Content of the RSA private key is in the format of unencrypted PEM encoded PKCS#8. For more information, see *OpenSSL PKCS#8*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateKeyPair
&RegionId=cn-qingdao
&KeyPairName=test
&<Common Request Parameters>
```

Response example

XML format

```
<CreateKeyPairResponse>
    <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
    <KeyPairName>test</KeyPairName>
    <KeyPairFingerPrint>89:f0:ba:62:ac:b8:aa:e1:61:5e:fd:81:69:86:6d:
6b:f0:c0:5a:d7</KeyPairFingerPrint>
    <PrivateKeyBody>xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</PrivateKeyBody>
</CreateKeyPairResponse>
```

JSON format

```
{
    "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E"
    "KeyPairName": "test"
    "KeyPairFingerPrint": "89:f0:ba:62:ac:b8:aa:e1:61:5e:fd:81:69:86:
6d:6b:f0:c0:5a:d7"
    "PrivateKeyBody": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
}
```

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	NOTE
MissingParameter	The input parameter “RegionId” that is mandatory for processing this request is not supplied.	400	You must specify the `RegionId` parameter.
InvalidKeyPairName.Malformed	Specified Key Pair name is not valid.	400	The specified `KeyPairName` is invalid or already exists.
QuotaExceed.KeyPair	The key pair quota exceeds.	403	The number of your key pairs cannot exceed 500 in each region.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

11.2 ImportKeyPair

Imports the public key of an SSH key pair that you create with other key pair generators into one of the Alibaba Cloud regions. Once the public key is imported we secure it. However, you must save the private key by yourself.

Description

When you call this interface, consider the following:

- You can create up to 500 key pairs in each Alibaba Cloud region.
- The encryption method of your SSH key pair must be any of the following:
  - rsa
  - dsa
  - ssh-rsa
  - ssh-dss
  - ecdsa
  - ssh-rsa-cert-v00@openssh.com
  - ssh-dss-cert-v00@openssh.com
  - ssh-rsa-cert-v01@openssh.com
  - ssh-dss-cert-v01@openssh.com

- ecdsa-sha2-nistp256-cert-v01@openssh.com
- ecdsa-sha2-nistp384-cert-v01@openssh.com
- ecdsa-sha2-nistp521-cert-v01@openssh.com

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ImportKeyPair.
RegionId	String	Yes	Regional ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
PublicKeyBody	String	Yes	The public key of the SSH key pair.
KeyPairName	String	Yes	The name of the key pair. The name must be unique. • Can be [2, 128] characters in length . • Must begin with an uppercase or lowercase English letter. Can contain digits, underscores (_), colons (:), or hyphens (-). • Supports all character set encoding formats. • Cannot begin with http:// or https://.

Return parameters

Name	Type	Description
KeyPairName	String	Key pair name.

Name	Type	Description
KeyPairFingerPrint	String	Fingerprint of the key pair. The public key fingerprint format is defined in RFC4716 and uses the MD5 message digest algorithm. For more information, see *RFC4716*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ImportKeyPair
&RegionId=cn-qingdao
&PublicKeyBody=xxxxxxxxxxxxxx
&KeyPairName=test
&<Common Request Parameter>
```

Response example

XML format

```
<ImportKeyPairResponse>
    <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
    <KeyPairName>test</KeyPairName>
    <KeyPairFingerPrint>89:f0:ba:62:ac:b8:aa:e1:61:5e:fd:81:69:86:6d:
6b:f0:c0:5a:d7</KeyPairFingerPrint>
</ImportKeyPairResponse>
```

JSON format

```
{
    "RequestId": "473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E"
    "KeyPairName": "test"
    "KeyPairFingerPrint": "89:f0:ba:62:ac:b8:aa:e1:61:5e:fd:81:69:86:
6d:6b:f0:c0:5a:d7"
}
```

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Meaning
MissingParameter	The input parameter “RegionId” that is mandatory for processing this request is not supplied.	400	You must specify the `RegionId` parameter.

Error code	Error message	HTTP status code	Meaning
InvalidPublicKeyBody.Malformed	The PublicKeyBody format is not supported.	400	The format of the specified `PublicKeyBody` is incorrect.
InvalidKeyPairName.Malformed	Specified Key Pair name is not valid.	400	The specified `KeyPairName` is invalid or already exists.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

11.3 AttachKeyPair

Attaches an SSH key pair to one or more of your Linux instances.

Description

When you call this interface, consider the following:

- SSH key pairs are not supported for Windows instances.
- Once the SSH key pair is used, the authentication method by using the user name and password is disabled, by default.
- If the instance is in **Running** (`Running`) status, restart the instance (***`RebootInstance`***) to make the operation take effect.
- If the instance is in **Stopped** (`Stopped`) status, the SSH key pair takes effect immediately once the instance starts (***`StartInstance`***).
- If an instance already has an attached SSH key pair, the new SSH key pair replaces the former one automatically.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: AttachKeyPair.
RegionId	String	Yes	The ID of the region to which the SSH key pair belongs. For

Name	Type	Required	Description
			more information, call ***DescribeRegions*** to obtain the latest region list.
KeyPairName	String	Yes	The name of the SSH key pair.
InstanceIds	String	Yes	The instance ID. The value can contain arrays of up to 50 instance IDs. The IDs are displayed in the format of ["i-xxxxxxxxx", "i-yyyyyyyyy", … "i-zzzzzzzzz"] and separated by commas (,).

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AttachKeyPair
&RegionId=cn-qingdao
&KeyPairName=test
&InstanceIds=["i-XXXXX"]
&<Common Request Parameters>
```

Response example

XML format

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

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	Description
MissingParameter	The input parameter RegionId that is required for processing this request is not supplied .	400	You must specify the parameter `RegionId` . Or you are not authorized to use the resource in the specified region.
DependencyViolation. WindowsInstance	The instance creating this window, cannot use ssh key pair to login.	403	You cannot attach SSH key pair to Windows instances.
InvalidKeyPairName. NotFound	The specified KeyPairName does not exist in our records .	404	The specified `KeyPairName` does not exist.
InvalidRegionId. NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

11.4 DetachKeyPair

Detaches an SSH key pair from one or more of your Linux instances.

Description

When you call this interface, consider the following:

- After you detach an SSH key pair, restart the instance (***`RebootInstance`***) for the operation to take effect.
- After the key pair is detached, the user name and password authentication method is used by default.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DetachKeyPair
RegionId	String	Yes	The ID of the region to which your SSH key pair belongs. For more information, call ***DescribeRegions*** to obtain the latest region list.
KeyPairName	String	Yes	The names of key pairs.
InstanceIds	String	No	The instance ID. The instance ID. The value can contain arrays of up to 50 instance IDs. The IDs are displayed in the format of ["i-xxxxxxxxx", "i-yyyyyyyyy", … "i-zzzzzzzzz"] and separated by commas (,).

Response parameters

All are common parameters. See *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DetachKeyPair
&RegionId=cn-qingdao
&InstanceIds=["i-xxxxxxx", "i-yyyyyyy"]
&KeyPairName=test
&<Common Request Parameters>
```

Response example

XML format

```
<DetachKeyPairResponse>
```

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

JSON format

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

Error codes

Error codes specific to this interface are as follows. For more error codes, see the *API error center*.

Error code	Error message	HTTP status code	Note
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	You must specify the parameter `RegionId`. Or you are not authorized to use the resource in the specified region.
DependencyViolation.WindowsInstance	The instance creating is windows, cannot use ssh key pair to login.	403	SSH key pairs are not supported for Windows instances.
InvalidKeyPairName.NotFound	The specified KeyPairName does not exist.	404	The specified `KeyPairName` does not exist.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

11.5 DeleteKeyPairs

Deletes one or more of your SSH key pairs. Once an SSH key pair is deleted, we remove the related entry of the public key from our database. However, the instances that have the SSH key pair attached, can use it normally, and you can still view the instance key pair name in the instance details list.

Description

When you call this interface, consider the following:

- The SSH key pair cannot be described (***`DescribeKeyPairs`***) any more.

- When you obtain the information about the instances (***DescribeInstances***), the key pair name (`KeyPairNames`) is still returned, but without any information about the SSH key pair.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DeleteKeyPairs.
RegionId	String	Yes	The ID of the region to which the SSH key pair belongs. For more information, call ***DescribeRegions*** to obtain the latest region list.
KeyPairNames	String	Yes	The names of key pairs. The value can contain arrays of up to 100 SSH key pairs. The key pair name are displayed in the format of ["key-xxxxxxxxx", "key-yyyyyyyyy", … "key-zzzzzzzzz"] and separated by commas (,).

Return parameters

All are common parameters. See *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DeleteKeyPairs
&RegionId=cn-qingdao
&KeyPairNames=test
&<Common Request Parameters>
```

Response example

XML format

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

JSON format

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

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Meaning
MissingParameter	The input parameter RegionId that is mandatory for processing this request is not supplied.	400	You must specify the parameter `RegionId`. Or you are not authorized to use the resource in the specified region.
MissingParameter	The input parameter KeyPairName that is mandatory for processing this request is not supplied.	400	You must specify the `KeyPairName` parameter.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

11.6 DescribeKeyPairs

Describes one or more of your SSH key pairs.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeKeyPairs.
RegionId	String	Yes	The ID of the region to which your SSH key pairs belong. For more information, call ***`DescribeRegions`*** to obtain the latest region list.

Name	Type	Required	Description
KeyPairFingerPrint	String	No	The fingerprint of the key pair. The public key fingerprint format is defined in RFC4716 and uses the MD5 message digest algorithm. For more information, see *RFC4716*.
KeyPairName	String	No	The key pair name. You can use the regular expression and the symbol `*` for fuzzy string search of a key pair name. Sample patterns: • `*SshKey`: Matches the string set ending with *SshKey*, including *SshKey*. • `SshKey*`: Matches the string set beginning with *SshKey*, including *SshKey*. • `*SshKey*`: Matches the string set with *SshKey* within, including *SshKey*. • `SshKey`: Matches the string set *SshKey*.
PageNumber	Integer	No	Displays the SSH key pairs on several pages. Start value: 1. Default value: 1.
PageSize	Integer	No	The maximum entries on a page. Maximum value: 50. Default value: 10.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Response parameters

Name	Type	Description
TotalCount	Integer	The total number of key pairs.
PageNumber	Integer	The current page.
PageSize	Integer	The maximum entries on a page.
RegionId	String	The region of the key pair.

Name	Type	Description
KeyPairs	*KeyPairItemType*	Information about key pairs, a set composed by KeyPairItemType.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeKeyPairs
&RegionId=cn-qingdao
&KeyPairFingerPrint=xxxxxxxxxx
&KeyPairName=test
&PageNumber=1
&PageSize=20
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeKeyPairsResponse>
    <PageNumber>1</PageNumber>
    <PageSize>2</PageSize>
    <TotalCount>1</TotalCount>
    <KeyPairs>
        <KeyPair>
            <KeyPairName>test</KeyPairName >
            <KeyPairFingerPrint>xxxxxxxxxx</KeyPairFingerPrint>
        </KeyPair>
    </KeyPairs>
    <RequestId>473469C7-AA6F-4DC5-B3DB-A3DC0DE3C83E</RequestId>
</DescribeKeyPairsResponse>
```

JSON format

```
{
  "PageNumber": 1,
  "PageSize": 50,
  "RequestId": "B04B8CF3-4489-432D-83BA-6F128E4F2295",
  "Tags": {
    "Tag": [
      {
        "TagKey": "test",
        "TagValue": "api"
      }
    ]
  },
  "TotalCount": 1
}
```

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	The input parameter “RegionId” that is mandatory for processing this request is not supplied.	400	The `RegionId` parameter must be specified.
InvalidParameter	The specified parameter “PageNumber” is not valid.	400	The specified `PageNumber` parameter is invalid.
InvalidParameter	The specified parameter “PageSize” is not valid.	400	The specified `PageSize` parameter is invalid.

12 Networks

12.1 AllocatePublicIpAddress

Assigns an Internet IP address to an instance.

Description

When you call this interface, consider the following:

- Before assigning an Internet IP address, the instance must be in the `Running` or `Stopped` status.
- If a VPC-Connected instance has an EIP allocated, you cannot assign an Internet IP address to it
- You can assign only one Internet IP address to the instance. If the instance has an Internet IP address, an error `AllocatedAlready` is returned.
- After you restart the instance (***`RebootInstance`***) or start the instance (***`StartInstance`***), the assigned Internet IP address becomes effective.
- If the specified instance is *locked*, and the `OperationLocks` of the instance indicates `"LockReason" : "security"`, your request is denied.

To assign an Internet IP address to a VPC-Connected instance, you can also allocate an Elastic IP (EIP) to the instance. For more information, see ***`AssociateEipAddress`***.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: AllocatePublicIpAddress.
InstanceId	String	Yes	An instance ID that requires an Internet IP address to be assigned.

Response parameters

Name	Type	Description
IpAddress	String	The assigned Internet IP address.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AllocatePublicIpAddress
&InstanceId=i-instance1
&<Common Request Parameters>
```

Response example

XML format

```
<AllocatePublicIpAddressResponse>
    <RequestId>F2EF6A3B-E345-46B9-931E-0EA094818567</RequestId>
    <IpAddress>10.1.149.159</IpAddress>
</AllocatePublicIpAddressResponse>
```

JSON format

```
    "RequestId": "F2EF6A3B-E345-46B9-931E-0EA094818567",
    "IpAddress": "10.1.149.159"
```

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
InsufficientPublicIp	Ip address not found	400	No available Internet IP address, please try again later.
OperationDenied	Specified operation is denied as your instance is in VPC.	400	The specified VPC-Connected instance has an EIP allocated and cannot be assigned an Internet IP.

Error code	Error message	HTTP status code	Meaning
AllocatedAlready	There is an IpAddress allocated already for the specified instance.	403	The instance has an Internet IP address assigned.
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	Before assigning an Internet IP address, the instance must be in the `Running` or `Stopped` status.
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The specified *Subscription* instance has expired or the specified *Pay-As-You-Go* instance has an overdue payment.
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The specified instance is *locked* for security reason, and your request is denied.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.

12.2 ConvertNatPublicIpToEip

ConvertNatPublicIpToEip changes the public IP (NatPublicIp) of a Virtual Private Cloud (VPC) connected instance to an Elastic IP (EIP).

Description

When using this operation, consider the following:

- The network type of the specified instance must be VPC.
- The status of the specified instance must be **Stopped** (`Stopped`) or **Running** (`Running`).
- The outbound bandwidth of an ECS instance must be greater than 0 Mbps, in case the ECS instance does not have a public IP `NatPublicIp`.
- This action fails if you have already bound an EIP to the specified instance.
- This action fails if ongoing configuration changes exist for the specified ECS instance.
- This action fails if the specified instance expires in the next 24 hours.

- Once the public IP `NatPublicIp` is changed to an EIP, you are billed for using the EIP service. For more information, see EIP document *Pay-As-You-Go billing*.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: ConvertNatPublicIpToEip.
RegionId	String	Yes	The region ID. For more information, use the *DescribeRegions* API to obtain the latest region list.
InstanceId	String	Yes	Identifier of the target ECS instance.

Response parameters

Examples

Request example

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

Response example

XML format

```
<ConvertNatPublicIpToEipResponse>
    <RequestId>B154D309-F3E1-4AB7-BA94-FEFCA8B89001</RequestId>
</ConvertNatPublicIpToEipResponse>
```

JSON format

```
{
   "RequestId":"B154D309-F3E1-4AB7-BA94-FEFCA8B89001"
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
InvalidRegionId.Malformed	The specified RegionId is invalid.	400	The specified `RegionId` does not exist, or you are not

Error code	Error message	HTTP status code	Description
			authorized to access the specified region.
InvalidEndTime.Malformed	The specified instance expires in the next 24 hours.	403	The specified instance expires in the next 24 hours.
InvalidInstanceId.PlanedChange	The instance has incomplete changes.	403	Ongoing configuration changes exist for the specified ECS instance.
InvalidInstanceStatus.Released	The specified instance has been released.	403	The specified instance has been released.
IncorrectInstanceStatus	The instance status does not support this operation. The instance may be expired, upgrading, starting, or locked.	404	The specified instance must be in the **Stopped** (`Stopped`) or **Running** (`Running`) status.
InstanceTypeNotSupported	The specified instance is a subscription on instance with a specified bandwidth.	404	The specified instance is a subscription instance with a specified bandwidth.
InvalidInstance.ZeroBandwidth	The public network bandwidth for the specified instance is zero. That is, this instance does not have a public IP.	404	The outbound bandwidth of an ECS instance must be greater than 0 Mbps.
InvalidInstanceId.NotFound	The specified instance does not exist, or does not belong to you.	404	The specified instance does not exist or does not belong to you.
OperationDenied	The network type of the specified instance is not VPC.	404	The specified instance must be VPC-Connected.

12.3 AttachClassicLinkVpc

Links a classic network instance to the *Virtual Private Cloud (VPC)*, which allows the classic network instance communicating with the resources that are in the intranet of a VPC. For more information, see *VPC* topic *ClassicLink overview*.

Description

When you call this interface, consider the following:

- The instance must be in the **Running** (`Running`) or **Stopped** (`Stopped`) status.
- The ClassiscLink service must be enabled for the specified VPC. For more information, see VPC topic *Build ClassicLink connection*.
- The classic network instance and the VPC must be in the same Alibaba Cloud region.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: AttachClassicLinkVpc.
RegionId	String	Yes.	Region ID of the instance. For more information, see ***DescribeRegions*** to obtain the latest region list.
InstanceId	String	Yes.	ID of the classic network instance. You can call ***DescribeInstances*** to obtain all of your instance IDs.
VpcId	String	Yes.	ID of the ClassicLink enabled VPC. You can call DescribeVpcs to obtain all of your VPC IDs.

Response parameters

All are common response parameters. For more information, see *Common parameter*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AttachClassicLinkVpc
&RegionId=cn-hangzhou
&InstanceId=i-test
&VpcId=vpc-test
```

```
&<Common Request Parameters>
```

Response example

XML format

```
<AttachClassicLinkVpcResponse>
    <RequestId>C0003E8B-B930-4F59-ADC0-0E209A9012A8</RequestId>
</AttachClassicLinkVpcResponse>
```

JSON format

```
    "RequestId": "C0003E8B-B930-4F59-ADC0-0E209A9012A8"
```

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
Abs.InvalidInstanceId.MalFormed	The specified instance has already been linked to another VPC.	400	The specified instance is already linked to another VPC.
InvalidInstanceId.MalFormed	The specified instance is not a classic network type instance.	400	The network type of the specified instance is not a classic network.
InvalidRegionId.Malformed	The specified RegionId is invalid.	400	The specified `RegionId` does not exist or you are not authorized to access the specified region.
InvalidVpcId.Malformed	The specified VpcId is invalid.	400	The specified `VpcId` is invalid.
InvalidInstanceId.NotBelong	The user does not own the specified instance.	403	The specified instance does not belong to you.
InvalidStatus.InstanceLocked	The specified instance is in another processing list.	403	The specified instance is processing another task.

Error code	Error information	HTTP status code	Description
InvalidStatus.InstanceStatus	Only the Running or Stopped InstanceStatus is allowed.	403	The specified instance must be in the **Running** (`Running`) or **Stopped** (`Stopped`) status.
OperationDenied	The specified VPC are unable to attach ClassicLink.	403	The specified VPC cannot enable ClassicLink.
QuotaExceeded	The maximum number of links in the specified VPC exceeds.	403	The number of available links for the current VPC has reached the upper limit, up to 1000 classic network type instances are allowed to connect to the same VPC.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.

12.4 DetachClassicLinkVpc

Unlinks a classic network-connected instance from the VPC. For more information, see *VPC* topic *ClassicLink overview*. After the ClassicLink is disabled, the classic network-connected instance cannot access the VPC.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DetachClassicLinkVpc.
RegionId	String	Yes	Region ID of the instance. For more information, call ***`DescribeRegions`*** to obtain the latest region list.

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

Response parameters

All are common response parameters. For more information, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DetachClassicLinkVpc
&RegionId=cn-hangzhou
&VpcId=vpc-test
&InstanceId=i-test
&<Common Request Parameters>
```

Response example

XML format

```
<DetachClassicLinkVpcResponse>
    <RequestId>C0003E8B-B930-4F59-ADC0-0E209A9012A8</RequestId>
</DetachClassicLinkVpcResponse>
```

JSON format

```
{
    "RequestId": "C0003E8B-B930-4F59-ADC0-0E209A9012A8"
}
```

Error codes

Error codes specific to this interface are as follows. For more error codes, visit the *API Error Center*.

Error code	Error message	HTTP status code	Meaning
InvalidInstanceId.MalFormed	The specified instance is not a classic network type instance.	400	The specified instance is not of the classic network type.
InvalidRegionId.Malformed	The specified RegionId is invalid.	400	The specified `RegionId` does not

Error code	Error message	HTTP status code	Meaning
			exist. Or you are not authorized to access the specified region.
InvalidVpcId.Malformed	The specified VpcId is invalid.	400	The specified `VpcId` is invalid.
InvalidInstanceId.NotBelong	The user does not own the specified instance.	403	The specified instance does not belong to you.
InvalidStatus.InstanceLocked	The specified instance is in another process list.	403	The specified instance is processing other procedures.
InvalidStatus.InstanceStatus	Only the Running or Stopped InstanceStatus is allowed.	403	The specified instance must be **Running** (`Running`) or **Stopped** (`Stopped`).
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.

12.5 DescribeBandwidthLimitation

Describes a list of bandwidth resources.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeBandwidthLimitation.
RegionId	String	Yes	ID of the target region. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
InstanceType	String	Yes	Instance type. For more information, see *Instance type*

Name	Type	Required	Description
			families, or call ***DescribeInstanceTypes*** to obtain the latest type list.
InstanceChargeType	String	No	Billing method of the instances. For more information, see *Pricing overview*. Optional values: • PrePaid: Subscription. • PostPaid: Pay-As-You-Go. Default value: PostPaid.
SpotStrategy	String	No	Specifies whether a Pay-As-You-Go instance is a preemptible instance or not. Value range: • NoSpot: The instance is a Pay-As-You-Go preemptible instance. • SpotWithPriceLimit: The instance is a preemptible instance and its price is a spot price. • SpotAsPriceGo: The instance is a preemptible instance and its price is the market price. Default: NoSpot. Only if `InstanceCh`

Name	Type	Required	Description
			`argeType` is set to `PostPaid`, `SpotStrategy` can be valid.
OperationType	String	No	Specifies operation limits of the bandwidth. Optional values: • Upgrade: Upgrade bandwidth. • Downgrade: Downgrade bandwidth. • Create: Create bandwidth. Default: Create.
ResourceId	String	No	Resource ID. If you set `OperationType` to `Upgrade` or `Downgrade`, you must specify the ResourceId.

Response parameters

Name	Type	Description
Bandwidths	Array of *`BandwidthType`*	A collection of bandwidth types .

BandwidthType

Name	Type	Description
InternetChargeType	String	Network billing method. Possible values: • Paybytraffic: The bandwidth fees is charged on an hourly basis according to actual traffic usage.

Name	Type	Description
Min	Integer	Minimum limit of the bandwidth . No value is returned if the parameter is null.
Max	Integer	Maximum limit of the bandwidth. No value is returned if the parameter is null .
Unit	Integer	Resource type unit. No value is returned if the parameter is null.

Examples

Request example

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

Response example

XML format

```
<DescribeBandwidthLimitationResponse>
    <Bandwidths>
          <Bandwidth>
            <InternetChargeType>PayByTraffic</InternetChargeType>
            <Max>100</Max>
            <Min>0</Min>
            <Unit>Mbps</Unit>
        </Bandwidth>
          <Bandwidth>
            <InternetChargeType>PayByTraffic</InternetChargeType>
            <Max>100</Max>
            <Min>0</Min>
            <Unit>Mbps</Unit>
        </Bandwidth>
     </Bandwidths>
    <RequestId>675B6D89-A3EB-4987-BAF3-610591E0D019</RequestId>
</DescribeBandwidthLimitationResponse>
```

JSON format

```
{
    " Bandwidths": {
        " Bandwidth": [
        {
            "InternetChargeType": "PayByTraffic",
            "Max": 100,
            "Min": 0,
            "Unit": "Mbps"
```

```
        },
        {
            "InternetChargeType": "PayByTraffic",
            "Max": 100,
            "Min": 0,
            "Unit": "Mbps"
        }]
    },
    "RequestId": "675B6D89-A3EB-4987-BAF3-610591E0D019",
}
```

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Description
Invalid.InstanceChargeType	The specified InstanceChargeType is not valid.	400	The specified `InstanceChargeType` does not exist.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.
Unavailable.Regions	The available regions does not exists.	404	The specified `RegionId` does not have permission.

12.6 DescribeClassicLinkInstances

Describes one or more of your classic network-connected instances that have established ClassicLink with a VPC.

Description

When you call this interface, consider the following:

- Only applicable to the classic network-connected instances.
- You can query at most 100 instances each time.
- Either the parameter `VpcId` or `InstanceId` must be specified.

Request parameters

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

Name	Type	Required	Description
			DescribeClassicLinkInstances.
RegionId	String	Yes	The region ID of the instance. You can call ***DescribeRegions*** to obtain the latest region list.
InstanceId	String	No	The instance ID. It must be classic network-connected instances that are linked to a VPC by using ClassicLink. At most 100 instance IDs can be specified. IDs are separated by commas (,). Sample: `InstanceId=i-XXX, i-XXX, i-XXX, i-XXX, ....`.
VpcId	String	No	VPC ID. The *ClassicLink* service must be enabled for the specified VPC.
PageNumber	Integer	No	Displays the information of the classic network-connected instances on several pages. Start value: 1. Default value: 1.
PageSize	Integer	No	The number of the classic network-connected instances on each page. Value range: [1, 100]. Default value: 10.

Response parameters

Name	Type	Description
TotalCount	Integer	Total number of ClassicLinks
PageNumber	Integer	Page number of the connection list
PageSize	Integer	Number of lines per page set during input
Links	*Link*	An information set consists of VPC ID and classic network-connected instance ID.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeClassicLinkInstances
&RegionId=cn-hangzhou
&VpcId=vpc-test
&InstanceId=i-test, i-test1
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeClassicLinkInstancesResponse>
    <RequestId>B154D309-F3E1-4AB7-BA94-FEFCA8B89001</RequestId>
    <TotalCount>2</TotalCount>
    <PageNumber>1</PageNumber>
    <PageSize>10</PageSize>
    <Links>
        <Link>
            <InstanceId>i-test</InstanceId>
            <VpcId>vpc-test</VpcId>
        </Link>
        <Link>
            <InstanceId>i-test1</InstanceId>
            <VpcId>vpc-test</VpcId>
        </Link>
    </Links>
</DescribeClassicLinkInstancesResponse>
```

JSON format

```
    "PageNumber":1,
    "Links":{
        "Link":[{
            "InstanceId":"i-test",
            "VpcId":"vpc-test"
```

```
            "InstanceId": "i-test1",
            "VpcId": "vpc-test"


    "TotalCount":2,
    "PageSize":10,
    "RequestId":"B154D309-F3E1-4AB7-BA94-FEFCA8B89001"
```

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
InvalidRegionId.Malformed	The specified RegionId is invalid.	400	The specified `RegionId` does not exist. Or you are unauthorized to access the specified region.
InvalidInstanceId.NotBelong	The user does not own the specified instance.	403	The specified instance does not belong to you.
InvalidParameter.InvalidInstanceIdAndVpcId	Either InstanceId or VpcId must be specified.	403	Either `InstanceId` or `VpcId` must be specified.
InvalidParameter.ToManyInstanceIds	The maximum number of specified InstanceIds is exceeded.	403	The number of `InstanceId` must be less than 100.
InvalidVpc.NotBelong	The user do not own the specified VPC.	403	The specified VPC does not belong to you .
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified `InstanceId` does not exist.

12.7 ModifyInstanceNetworkSpec

Modifies the bandwidth configuration of your Instance. If the network specification of your ECS instance is not suitable for your business scale, you can change the bandwidth configuration accordingly.

Description

When you call this interface, consider the following:

- When you change the bandwidth configuration of a **Subscription** (`PrePaid`) instance, consider the following:
  - The configuration of bandwidth that is **PayByTraffic**(`Pay By Traffic`) can be upgraded or downgraded.
  - The instance has an Internet IP allocated when the **InternetMaxBandwidthOut** (`InternetMaxBandwidthOut`) is upgraded from 0 Mbps.
- When you change the bandwidth configuration of a **Pay-As-You-Go** (`Pay-As-You-Go`) instance, consider the following:
  - The bandwidth configuration can be upgraded or downgraded.
  - The instance has no Internet IP allocated when the **InternetMaxBandwidthOut** (`InternetMaxBandwidthOut`) is upgraded from zero Mbps. However, you can call ***`AllocatePublicIpAddress`*** to allocate Internet IP address for the instance.
- For classic type instances, when **InternetMaxBandwidthOut**(`InternetMaxBandwidthOut`) is upgraded from 0 Mbps, the instance must be in the **Stopped** (`Stopped`) status.
- Before going ahead with an upgrade, you must make sure that you have registered a valid credit card, once you upgrade the bandwidth configuration, auto-payment is initiated. If the payment is unsuccessful, an abnormal order is returned and can only be nullified.

  If your account balance is insufficient, you can set the parameter `AutoPay` to `false` to cancel the automatic payment. Thus, an unpaid order is returned and you can complete the order by making the payment in the *ECS console*.
- The bandwidth cannot be changed again within five minutes after the action is performed.
- The bandwidth of a Subscription instance can only be downgraded three times.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: ModifyInstanceNetworkSpec.
InstanceId	String	Yes	ID of the instance.
InternetMaxBandwidthOut	Integer	No	Maximum value of public network outbound bandwidth ; unit: Mbps (Megabit per second). Value range: [1, 100].
InternetMaxBandwidthIn	Integer	No	The maximum inbound bandwidth from the Internet, measured in Mbps. Value range: [1 , 100].
NetworkChargeType	String	No	The billing method of the bandwidth. Optional values: • PayByTraffic: The bandwidth is billed by the sum of network traffic.
Autopay	Boolean	No	Whether or not automatic payment is enabled. Optional values: • true: The payment goes through automatically after you upgrade the bandwidth configuration. However, before that, you must make sure that your registered

Name	Type	Required	Description
			credit card is valid and does not have credit limit set. Moreover, if you choose PayPal, you must maintain sufficient balance in your account. If the auto payment attempt is unsuccessful, an abnormal order returns and can only be nullified. However, before you set `Autopay` to `True` you must make sure that your registered credit card is valid and does not have credit limit set. Moreover, if you choose PayPal, you must maintain sufficient balance in your account. • false: The payment does not go through automatically, once you upgrade the bandwidth configuration. When your registered credit card is invalid or you have insufficient balance in your PayPal account, you can set the `AutoPay`

Name	Type	Required	Description
			parameter to `false` to cancel the auto-payment option. This results into an unpaid order and you can complete the order *ECS console* . Default value: True.
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by a client. It must be unique among all requests and contains a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
RequestId	String	The ID of the request.
Orderid	Long	Order ID.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceNetworkSpec
&RegionId=cn-hangzhou
&InstanceId=i-xxxxx1
&InternetMaxBandwidthOut=10
&ClientToken=xxxxxxxxxxxxxx
&<Common Request Parameters>
```

Response sample

XML format

```
<ModifyInstanceNetworkSpecResponse>
```

```
        <RequestId>04F0F334-1335-436C-A1D7-6C044FE73368</RequestId>
</ModifyInstanceNetworkSpecResponse>
```

JSON format

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

Error codes

Error codes specific to this interface are as follows. For more error codes, visit *API Error Center*.

Error code	Error message	HTTP status code	Description
Account.Arrearage	Your account has an outstanding payment.	400	Your account has an overdue payment.
DecreasedBandWidthNotAllowed	A higher bandwidth than the current one is required.	400	The new bandwidth cannot be less than the existing bandwidth.
InvalidInstance.UnpaidOrder	The specified instance has unpaid order.	400	The current instance has unpaid orders.
InvalidInstanceStatus.NotStopped	The specified Instance status is not Stopped.	400	The instance is not in a Stopped status.
InvalidInternetChargeType.ValueNotSupported	The specified InternetChargeType is invalid.	400	The specified `InternetChargeType` does not exist.
InvalidInternetMaxBandwidthIn.ValueNotSupported	The specified InternetMaxBandwidthIn is beyond the permitted range.	400	The value range of `InternetMaxBandwidthIn` is [1, 200].
InvalidInternetMaxBandwidthOut.ValueNotSupported	The specified InternetMaxBandwidthOut is beyond the permitted range.	400	The value range of `InternetMaxBandwidthOut` is [0, 100].
MissingParameter	The input parameter “InstanceId” that is mandatory for processing this request is not supplied.	400	You must specify the `InstanceId`.

Error code	Error message	HTTP status code	Description
OperationDenied	Specified instance is in VPC.	400	A VPC instance does not support this operation.
ChargeTypeViolation	The operation is not permitted due to billing method of the instance.	403	The billing method of the instance does not support this operation.
IncorrectInstanceStatus	The current status of the instance does not support this operation.	403	The status of the instance does not support this operation.
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	Your subscription ECS instance has expired . Or your Pay-As-You -Go instance has an overdue payment.
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The instance is *locked* for security reasons.
InvalidAccountStatus.NotEnoughBalance	Your account does not have enough balance.	403	Your registered credit card is invalid or you have insufficient balance in your PayPal account.
OperationDenied	The operation is denied due to the instance is PrePaid.	403	The operation is denied for a Subscription instance.
InvalidInstanceId.NotFound	The specified InstanceId does not exist.	404	The specified InstanceIds does not exist.
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	Internal error. Try again later.

13 Elastic network interfaces

13.1 CreateNetworkInterface

Creates an Elastic Network Interface (ENI).

Description

- The default status of a new ENI is **Available** (`Available`).
- An ENI can be only attached to the VPC-Connected instance that is in the same zone of the ENI.
- Because an ENI can be only attached to one instance, you must detach the ENI from the instance before you attach it to another instance.
- The properties of the ENI are not changed whatever instance the ENI is attached. Moreover , network traffic is redirected to the new instance if the instance to which the ENI is attached changes.
- By default, one account can own up to 100 ENIs in one region. For a higher quota, open a *ticket*.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: CreateNetworkInterface
RegionId	String	Yes	ID of the region of the instance. ID of the region in which the instance is located. For more information, call ***DescribeRegions*** to obtain the latest region list.
VSwitchId	String	Yes	VSwitch ID of the specified VPC. Specifies the switch ID for the VPC.
SecurityGroupId	String	Yes	The ID of the security group that the ENI joins. The security group and the ENI must be in a same VPC.
PrimaryIpAddress	String	No	The primary private IP address of the ENI. The specified IP address must have the same Host ID as the VSwitch. If no IP addresses are specified, a random network ID is assigned for the ENI.
NetworkInterfaceName	String	No	Name of your ENI.

Name	Type	Required	Description
			• It is a string of [2, 128] Chinese or English characters. It must begin with a letter and can contain numbers, underscores (_), colons (:), or hyphens (-). • The ENI name is displayed in the console. • It cannot begin with http:// or https://. • If this parameter is not specified, its name is null by default.
Description	String	No	Description of your ENI. • It is a string of [2, 256] English or Chinese characters. • It cannot begin with http:// or https://. • If this parameter is not specified, it is null by default.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
ClientToken	String	No	Guarantees the idempotence of the request. The value is generated by the client. It must be unique among all requests and can contains a maximum of 64 ASCII characters. For more information, see *How to ensure idempotence*.

Response parameters

Name	Type	Description
NetworkInterfaceId	String	ID of your Network Interface.

Examples

Request example

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

```
&RegionId=cn-hangzhou
&VSwitchId=[vswitchid]
&SecurityGroupId=sg-c0003exxxxx
&<Common Request Parameters>
```

Response example

XML format

```
<CreateNetworkInterfaceResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FExxxxx</RequestId>
    <NetworkInterfaceId>eni-eniIxxxxx</NetworkInterfaceId>
</CreateNetworkInterfaceResponse>
```

JSON format

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

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	The input parameter that is mandatory for processing this request is not supplied.	400	You must specify the required parameter.
UnsupportedParameter	The parameters is unsupported.	400	The specified parameter does not exist. Alternatively, the specified parameter is not supported.
Abs.InvalidAccount.NotFound	The Account is not found or AK is expired.	403	The specified Alibaba Cloud account does not exist. Alternatively, your AccessKey expired.
Forbidden.NotSupportRAM	This action does not support accessed by RAM mode.	403	A RAM User is limited to access the resource.
Forbidden.SubUser	The specified action is not available for you.	403	A RAM User is limited to access the resource.

Error code	Error message	HTTP status code	Meaning
InvalidOperation. availabilityzonemismatch	The VPC VSwitch of the specified ENI and ECS instance are not in the same availability zone.	403	The specified VSwitchId, ENI, and InstanceId are not in the same zone.
InvalidOperation. VpcMismatch	The VPC of the specified ENI and security group are not in the same VPC.	403	The specified ENI and SecurityGroupId are not in the same VPC.
InvalidSecurityGroupId. NotVpc	The specified securitygroupid not in VPC.	403	The specified SecurityGroupId is not in a VPC.
MaxEniCountExceeded	The number of ENI exceeds the limit per region.	403	The maximum number of ENI in the specified region is exceeded.
SecurityGroupInstanceLimitExceed	The maximum number of instances in a security group is exceeded.	403	The maximum number of instance in the specified SecurityGroupId is exceeded.
InvalidEcsId. NotFound	The specified EcsId is not found.	404	The specified InstanceId does not exist.
InvalidSecurityGroupId. NotFound	The specified SecurityGroupId is not found.	404	The specified SecurityGroupId does not exist.
InvalidVSwitchId. NotFound	The specified VSwitchId is not found.	404	The specified VSwitchId does not exist.

13.2 AssignPrivateIpAddresses

Allocates one or more secondary private IP addresses to an ENI. Particularly, you can specify the CIDR private IP addresses that are available in the VSwitch. Alternatively, set the number of private IP addresses you want to allocate, and ECS automatically allocates the IP addresses for you.

Description

- This operation only supports ENIs in the **Available**`Available` or **InUse**`InUse` status.

- When operating on a primary ENI, the attached instance must be in the **Running**`Running` or **Stopped**`Stopped` status.
- When the ENI is **Available**`Available`, you can allocate up to 10 secondary private IP addresses to the ENI. However, once the ENI is used and attached an instance, the maximum number of private IP addresses is subject to the instance type limits. For more information, see *instance type families*.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: AssignPrivateIpAddresses.
NetworkInterfaceId	String	Yes	ENI ID.
PrivateIpAddress.N	Array	No	Select one or more secondary private IP addresses from the CIDR block of the VSwitch. Value range of `N`: • When ENI is in the **Available**`Available` status: [1, 10]. • When ENI is in the **InUse**`InUse` status: Subject to instance type restrictions. For more information, see *instance type families*. You cannot specify the parameters `PrivateIpAddress.N` and `SecondaryPrivateIpAddressCount` at the same time.
SecondaryPrivateIpAddressCount	Integer	No	ECS can automatically create IP addresses for you. You must specify the number of private IP addresses you want to create.

Response parameters

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-m5e709m1ytxc4wx7wXXX
&PrivateIpAddress. 1=192.168.0.1
&PrivateIpAddress. 2=192.168.10.1
&<Common Request Parameters>
```

Response example

XML format

```
<AssignPrivateIpAddressesResponse>
    <RequestId>04F0F334-1335-436C-A1D7-6C044FE70008</RequestId>
</AssignPrivateIpAddressesResponse>
```

JSON format

```
{
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FE70008"
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
InValidParameter	the parameter(s) “{0}” provided is(are) invalid.	400	The specified parameter is invalid.
MissingParameter	The input parameter “{0}” that is mandatory for processing this request is not supplied.	400	You must specify this required parameters.
InvalidOperation.InvalidEniState	The operation is not allowed in the current ENI state. Expecting status is “{0}” while current status is “{1}”.	400	This operation only supports ENIs in the `Available` or `InUse` status.
InvalidIp.IpUnassigned	The specified IP “{0}” is not assigned on this ENI.	403	The specified secondary private IP address was not assigned to this ENI.
InvalidVSwitchId.IpInvalid	The specified IpAddress “{0}” is not valid in VSwitch CIDR block “{1}”.	403	You must select secondary IP addresses from the VSwitch's CIDR block.
Operation.Conflict	ecs task is conflicted.	403	The specified ENI is processing another task. Please try again later.
InvalidEniId.NotFound	The specified EniId “{0}” is not found.	404	The specified `NetworkInterfaceId` does not exist.

Error code	Error message	HTTP status code	Description
InvalidVSwitchId.NotFound	The specified VSwitchId “{0}” is not found.	404	The specified VSwitch does not exist.

13.3 UnassignPrivateIpAddresses

Deletes one or more secondary private IP addresses from an ENI.

Description

- This operation only supports ENIs in the `Available` or `InUse` status.
- When operating on a primary ENI, the attached instance must be in the `Running` or `Stopped` status.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: UnassignPrivateIpAddresses.
NetworkInterfaceId	String	Yes	ENI ID.
PrivateIpAddress.N	Array	Yes	One or more secondary private IP addresses to delete from an ENI. Value range of `N`: • ENI is in the `Available` status: [1, 10]. • ENI is in the `InUse` status: Subject to instance type restrictions.

Response parameters

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=UnassignPrivateIpAddresses
&NetworkInterfaceId=eni-m5e709m1ytxc4wx7wXXX
&PrivateIpAddress. 1=192.168.0.1
&PrivateIpAddress. 2=192.168.10.1
&<Common Request Parameters>
```

Response example

XML format

```
<UnassignPrivateIpAddressesResponse>
```

```
    <RequestId>04F0F334-1335-436C-A1D7-6C044FE70008</RequestId>
</UnassignPrivateIpAddressesResponse>
```

JSON format

```
{
    "RequestId": "04F0F334-1335-436C-A1D7-6C044FE70008"
}
```

Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Description
InValidParameter	the parameter(s) “{0}” provided is(are) invalid.	400	The specified parameter is invalid.
MissingParameter	The input parameter “{0}” that is mandatory for processing this request is not supplied.	400	You must specify this required parameters.
InvalidOperation.InvalidEniState	The operation is not allowed in the current ENI state. Expecting status is “{0}” while current status is “{1}”.	400	This operation only supports ENIs in the `Available` or `InUse` status.
InvalidIp.IpUnassigned	The specified IP “{0}” is not assigned on this ENI.	403	The specified secondary private IP address was not assigned to this ENI.
InvalidVSwitchId.IpInvalid	The specified IpAddress “{0}” is not valid in VSwitch CIDR block “{1}”.	403	You must select secondary IP addresses from the VSwitch's CIDR block.
Operation.Conflict	ecs task is conflicted.	403	The specified ENI is processing another task. Please try again later.
InvalidEniId.NotFound	The specified EniId “{0}” is not found.	404	The specified `NetworkInterfaceId` does not exist.
InvalidVSwitchId.NotFound	The specified VSwitchId “{0}” is not found.	404	The specified VSwitch does not exist.

13.4 DetachNetworkInterface

Detaches an ENI from your instance.

Description

- You cannot detach the primary network interface of an instance.
- The ENI must be in the **Detaching** (`Detaching`) or **In Use** (`InUse`) status.
- The instance must be in **Running** (`Running`) or **Stopped** (`Stopped`) status.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DetachNetworkInterface
RegionId	String	Yes	ID of the region of the ECS instance. For more information, call ***DescribeRegions*** to obtain the latest region list.
NetworkInterfaceId	String	Yes	ENI ID.
InstanceId	String	Yes	Instance ID.

Response parameters

All are common response parameters. See *Common response parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DetachNetworkInterface
&RegionId=cn-hangzhou
&NetworkInterfaceId=[networkInterfaceId]
&InstanceId=AY121018033933eaxxxxx
&<Common Request Parameters>
```

Response example

XML format

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

JSON format

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

```
}
```

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
UnsupportedParameter	The parameters is unsupported.	400	The specified parameter does not exist. Alternatively, the specified parameter is not supported.
InvalidOperation.InvalidEcsState	The operation is not allowed in the current ECS state.	400	The specified action failed due to the status of the instance.
InvalidOperation.DetachPrimaryEniNotAllowed	Detaching primary ENI from ECS instance is not allowed.	400	You cannot detach the primary network interface from an ECS instance.
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	400	You must specify the required parameter.
Forbidden.SubUser	The specified action is not available for you.	403	Ram users are not allowed to perform this operation.
Abs.InvalidAccount.NotFound	The Account is not found or AK is expired.	403	The specified Alibaba Cloud account does not exist. Alternatively, your AccessKey expires.
Forbidden.NotSupportRAM	This action does not support accessed by RAM mode.	403	Ram users are not allowed to perform this operation.
EniPerInstanceLimitExceeded	The number of ENI exceeds the limit for the type of instance you are trying to launch.	403	The maximum number of ENI in the specified region is exceeded.
InvalidOperation.InvalidEniType	The operation is not allowed in the current ENI type.	403	The specified action failed due to the type of the ENI.

Error code	Error message	HTTP status code	Description
InvalidEcsId.NotFound	The specified EcsId is not found.	404	The specified instance Id does not exist.

13.5 DescribeNetworkInterfaces

Describes the list of elastic network interfaces (ENI).

Description

- You can filter the results by specifying the parameters.
- If no parameter is specified, a list containing all ENIs is returned.
- You can view a maximum of 100 ENIs at a time.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeNetworkInterfaces
RegionId	String	Yes	Region ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
VSwitchId	String	No	Virtual Switch ID for the VPC.
PrimaryIpAddress	String	No	The primary private IP address of the ENI.
SecurityGroupId	String	No	Security group ID.
NetworkInterfaceName	String	No	ENI name.
Type	String	No	ENI type. Value range: • Primary • Secondary
InstanceId	String	No	ID of the instance currently associated with the ENI.
NetworkInterfaceId.N	String	No	ENI ID. You can view a maximum of 100 ENIs at a time.
PageNumber	Integer	No	Page number of the query result. The value is a positive integer. Default value: 1.
PageSize	Integer	No	Page size of the query result. Value range: [1, 100]. Default value: 10.

Name	Type	Required	Description
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Response parameters

Name	Type	Description
NetworkInterfaceSet	*NetworkInterfaceSet*	Information about a network interface
TotalCount	Integer	Total number of instances
PageNumber	Integer	Page number of the instance list
PageSize	Integer	Number of lines per page set during input

Examples

Request example

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

Response example

XML format

```
<DescribeNetworkInterfacesResponse>
    <NetworkInterfaceSets>
        <NetworkInterfaceSet>
            <AssociatedPublicIp />
            <CreationTime>2017-11-24T06:14:22Z</CreationTime>
            <InstanceId>AY121018033933eaxxxxx</InstanceId>
            <MacAddress>00:16:3e:0f:XX:XX</MacAddress>
            <NetworkInterfaceId>eni-bp17pdijfczaxZZZZxxxxx</NetworkInt
erfaceId>
            XXX. XXX. xx. xx
            <PrivateIpSets>
                <PrivateIpSet>
                    <AssociatedPublicIp />
                    <Primary>true</Primary>
                    <PrivateIpAddress>XXX.XXX.XX.XX</PrivateIpAddress>
                </PrivateIpSet>
```

```
            </PrivateIpSets>
            <SecurityGroupIds>
                <SecurityGroupId>sg-bp144yr32sx6ndwxxxxx</SecurityGr
oupId>
            </SecurityGroupIds>
            <Status>Available</Status>
            <Type>Secondary</Type>
            <VpcId>vpc-bp1j7w3gc1cexjqdxxxxx</VpcId>
            <VSwitchId>vsw-bp16usj2p27htro3xxxxx</VSwitchId>
            <ZoneId>cn-hangzhou-e</ZoneId>
        </NetworkInterfaceSet>
    </NetworkInterfaceSets>
    <PageNumber>1</PageNumber>
    <PageSize>100</PageSize>
    <RequestId>CEE5C347-0B64-4535-A061-95BE95Axxxxx</RequestId>
    <TotalCount>1</TotalCount>
</DescribeNetworkInterfacesResponse>
```

JSON format

```
{
    "NetworkInterfaceSets": {
        "NetworkInterfaceSet": [
            {
                "AssociatedPublicIp": {
                },
                "CreationTime": "2017-11-24T06:14:22Z",
                "InstanceId": "AY121018033933eaxxxxx",
                "MacAddress": "00:16:3e:0f:XX:XX",
                "NetworkInterfaceId": "eni-bp17pdijfczaxZZZZxxxxx",
                "PrivateIpAddress": "XXX.XXX.XX.XX",
                "PrivateIpSets": {
                    "PrivateIpSet": [
                        {
                            "AssociatedPublicIp": {
                            },
                            "Primary": true,
                            "PrivateIpAddress": "XXX.XXX.XX.XX"
                        }
                    ]
                },
                "SecurityGroupIds": {
                    "SecurityGroupId": [
                        "sg-bp144yr32sx6ndwxxxxx"
                    ]
                },
                "Status": "Available",
                "Type": "Secondary",
                "VpcId": "vpc-bp1j7w3gc1cexjqdxxxxx",
                "VSwitchId": "vsw-bp16usj2p27htro3xxxxx",
                "ZoneId": "cn-hangzhou-e"
            }
        ]
    },
    "PageNumber": 1,
    "PageSize": 100,
    "RequestId": "CEE5C347-0B64-4535-A061-95BE95Axxxxx",
    "TotalCount": 1
```

```
}
```

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
Abs.InvalidAccount.NotFound	The Account is not found or AK is expired.	403	The specified Alibaba Cloud account does not exist. Alternatively, your AccessKey expired.
UnsupportedParameter	The parameters is unsupported.	400	The specified parameter does not exist. Alternatively, the specified parameter is not supported.
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	400	You must specify the required parameter.
InvalidEcsId.NotFound	The specified EcsId is not found.	404	The specified instance ID does not exist.
InvalidVSwitchId.NotFound	The specified VSwitchId is not found.	404	The specified VSwitch ID does not exist.
InvalidSecurityGroupId.NotFound	The specified SecurityGroupId is not found.	404	The specified security group ID does not exist.
InvalidOperation.AvailabilityZoneMismatch	The VPC VSwitch of the specified ENI and ECS instance are not in the same availability zone.	403	The specified VPC VSwitch ID, ENI and instance ID are not in the same availability zone.
InvalidOperation.VpcMismatch	The VPC of the specified ENI and security group are not in the same VPC.	403	The specified ENI and security group ID are not in the same VPC.
InvalidSecurityGroupId.NotVpc	The specified SecurityGroupId not in VPC.	403	The specified security group ID is not of Type VPC.

14 Monitoring

14.1 DescribeDisksFullStatus

Describes the full status information of a disk.

Description

- The full status information of a disk includes the disk life cycle status (`Status`), disk health status (`HealthStatus`), and disk event type (`EventType`).
- Because the disk-related **event release time**, **scheduled event execution time**, and **actual event execution time** are the same, if you specify a period [`EventTime.Start`, `EventTime.End`], the system queries all history events that have occurred during the period. Currently, 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: DescribeDisksFullStatus.
RegionId	String	Yes	ID of the region where the specified disk belongs. For more information, call ***DescribeRegions*** to obtain the latest region list.
DiskId.N	String	No	Disk ID. Value range of N: [1, 100].
EventId.N	String	No	Event ID. Value range of N: [1, 100].
Status	String	No	Life cycle status of the disk. For more information, see *Cloud disk status table*. Optional values: • In Use • Available • Attaching • Detaching • Creating • Resilience
HealthStatus	String	No	Health status of the disk. Optional values: • Impaired: The disk is damaged. • Warning: The performance of disk may be degraded because of maintenance or technical issues.

Name	Type	Required	Description
			• Initializing: The disk is in reinitialization process. • InsufficientData: The event details cannot be determined because of insufficient data. • NotApplicable: Not applicable.
EventType	String	No	Disk event type. Optional values: • Degraded: The disk performance is downgraded. • SeverelyDegraded: The disk performance is seriously downgraded. • Stalled: The disk may be stalled with I/O suspended.
EventTime.Start	String	No	Queries the start time of the event occurrence time. The time format follows the *ISO8601* standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
EventTime.End	String	No	Queries the end time of the event occurrence 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 disks.
Page number of the status list of the disks	Integer	ECS instance list page number.
Pagesize	Integer	Size of each page.
DiskFullStatusSet	Array of *DiskFullStatusType*	Array of full disk status information.

DiskFullStatusType

Name	Type	Description
DiskId	String	Disk ID.
InstanceId	String	Instance ID.
Device	String	Device information of the related instance, such as /dev/xvdb. It is null unless the `Status` is **In Use** (`In_use`).
Diskeventset	Array of *DiskEventType*	Array of disk events.
Status.Code	Integer	Code of the disk life cycle status.
Status.Name	String	Name of the disk life cycle status.
HealthStatus.Code	Integer	Code of the disk health status.
HealthStatus.Name	String	Name of the disk health status.

DiskEventType

Name	Type	Description
EventId	String	Disk event ID.
EventType.Code	Integer	Event type code.
EventType.Name	String	Event type name.
EventTime	String	Event occurrence time. The time format follows the *ISO8601* standard, and the UTC time is used. The format is yyyy-MM-ddTHH:mm:ssZ.
EventEndTime	String	Event terminal time. 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=DescribeDisksFullStatus
&RegionId=cn-hangzhou
&<Common Request Parameters>
```

Success response example

XML format

```
<DescribeDisksFullStatusResponse>
    <DiskFullStatusSet>
```

```
        <DiskFullStatusType>
            <DiskEventSet>
                <DiskEventType>
                    <EventId>e-event1</EventId>
                    <EventType>
                        <Code>7</Code>
                        <Name>Stalled</Name>
                    </EventType>
                    <EventTime>2018-05-08T02:43:10Z</EventTime>
                </DiskEventType>
            </DiskEventSet>
            <DiskId>d-disk1</DiskId>
            <InstanceId>i-instance1</InstanceId>
            <HealthStatus>
                <Code>128</Code>
                <Name>Impaired</Name>
            </HealthStatus>
            <Status>
                <Code>129</Code>
                <Name>Available</Name>
            </Status>
        </DiskFullStatusType>
        <DiskFullStatusType>
            <DiskEventSet>
                <DiskEventType>
                    <EventId>e-event2</EventId>
                    <EventType>
                        <Code>1</Code>
                        <Name>Degraded</Name>
                    </EventType>
                    <EventTime>2018-05-06T02:43:10Z</EventTime>
                    <EventEndTime>2018-05-06T02:48:52Z</EventEndTime>
                </DiskEventType>
            </DiskEventSet>
            <DiskId>d-disk2</DiskId>
            <InstanceId>i-instance2</InstanceId>
            <HealthStatus>
                <Code>64</Code>
                <Name>Warning</Name>
            </HealthStatus>
            <Status>
                <Code>0</Code>
                <Name>Ok</Name>
            </Status>
        </DiskFullStatusType>
    </DiskFullStatusSet>
    <PageNumber>1</PageNumber>
    <PageSize>10</PageSize>
    <RequestId>1A8B4B27-8B2D-XXXX-XXXX-0F64DBE4C211</RequestId>
    <TotalCount>2</TotalCount>
</DescribeDisksFullStatusResponse>
```

JSON format

```
{
    "DiskFullStatusSet": {
        "DiskFullStatusType": [
            {
                "DiskEventSet": {
                    "DiskEventType": [
                        {
```

```
                            "EventId": "e-event1",
                            "EventType": {
                                "Code": "7",
                                "Name": "Stalled"
                            },
                            "EventTime": "2018-05-08T02:43:10Z"
                        }
                    ]
                },
                "DiskId": "d-disk1",
                "InstanceId": "i-instance1",
                "HealthStatus": {
                    "Code": 128,
                    "Name": "Impaired"
                },
                "Status": {
                    "Code": 129,
                    "Name": "Available"
                }
            },
            {
                "DiskEventSet": {
                    "DiskEventType": [
                        {
                            "EventId": "e-event2",
                            "EventType": {
                                "Code": "1",
                                "Name": "Degraded"
                            },
                            "EventTime": "2018-05-06T02:43:10Z",
                            "EventEndTime": "2018-05-06T02:48:52Z"
                        }
                    ]
                },
                "DiskId": "d-disk2",
                "InstanceId": "i-instance2",
                "HealthStatus": {
                    "Code": 0,
                    "Name": "Ok"
                },
                "Status": {
                    "Code": 129,
                    "Name": "Available"
                }
            }
        ]
    },
    "PageNumber": 1,
    "PageSize": 10,
    "RequestId": "1A8B4B27-8B2D-XXXX-XXXX-0F64DBE4C211",
    "TotalCount": 2
}
```


Error response example

XML format


```
<Error>
    <RequestId>C38E0D94-C18B-44F3-8C05-6E35BE334086</RequestId>
    <HostId>ecs.aliyuncs.com</HostId>
    <Code>MissingParameter</Code>
```

```
    <Message>The input parameter that is mandatory for processing this
 request is not supplied.</Message>
</Error>
```

JSON format

```
{
    "RequestId": "1A8B4B27-8B2D-XXXX-XXXX-0F64DBE4C211",
    "HostId": "ecs.aliyuncs.com"
    "Code": "MissingParameter"
    "Message": "The input parameter 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 information	HTTP status code	Description
InvalidParameter	The Parameter provided is not valid.	403	The parameter is invalid.
InvalidParameter.LengthExceeded	The Parameter provided exceeds maximum length.	403	The value range of N in **`EventId.N`** must be [1, 100].
InvalidParameter.TooManyDiskId	The diskIds provided is out of bounds [1,100].	403	The specified parameter value is out of the valid range.
InvalidParameter.TimeEndBeforeStart	The event time end should be after event time start.	403	The specified event time filter condition is not legal and the end time must be later than the start time.
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.

14.2 DescribeEniMonitorData

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

Description

The queriable 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.
`Enild`	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 (`ss`) is not `00`, the time will be automatically rounded up to the next minute.

Name	Type	Required	Description
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
Enild	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
&amp;EniId=eni-myENI
&amp;InstanceId=myInstance
&amp;StartTime=2018-05-21T12:19:00Z
&amp;EndTime=2018-05-21T12:22:00Z
&amp;&lt;Common Request Parameters>
```

Response examples

XML format

```
&lt;DescribeEniMonitorDataResponse>
 &lt;RequestId>5A03C2BA-3BCE-4A87-8076-7DC1629&lt;/RequestId>
 &lt;TotalCount>4&lt;/TotalCount>
 &lt;MonitorData>
     &lt;EniMonitorData>
         &lt;PacketTx>0&lt;/PacketTx>
         &lt;TimeStamp>2018-05-21T03:22:00Z&lt;/TimeStamp>
         &lt;IntranetOut>0&lt;/IntranetOut>
         &lt;DropPacketRx>0&lt;/DropPacketRx>
         &lt;IntranetIn>0&lt;/IntranetIn>
         &lt;EniId>eni-myENI&lt;/EniId>
         &lt;DropPacketTx>0&lt;/DropPacketTx>
         &lt;PacketRx>0&lt;/PacketRx>
     &lt;/EniMonitorData>
     &lt;EniMonitorData>
         &lt;PacketTx>0&lt;/PacketTx>
         &lt;TimeStamp>2018-05-21T03:21:00Z&lt;/TimeStamp>
         &lt;IntranetOut>0&lt;/IntranetOut>
         &lt;DropPacketRx>0&lt;/DropPacketRx>
         &lt;IntranetIn>0&lt;/IntranetIn>
         &lt;EniId>eni-myENI&lt;/EniId>
         &lt;DropPacketTx>0&lt;/DropPacketTx>
         &lt;PacketRx>0&lt;/PacketRx>
     &lt;/EniMonitorData>
     &lt;EniMonitorData>
         &lt;PacketTx>52240&lt;/PacketTx>
         &lt;TimeStamp>2018-05-21T03:19:00Z&lt;/TimeStamp>
         &lt;IntranetOut>73344&lt;/IntranetOut>
         &lt;DropPacketRx>0&lt;/DropPacketRx>
         &lt;IntranetIn>467&lt;/IntranetIn>
         &lt;EniId>eni-myENI&lt;/EniId>
         &lt;DropPacketTx>0&lt;/DropPacketTx>
         &lt;PacketRx>6603&lt;/PacketRx>
     &lt;/EniMonitorData>
     &lt;EniMonitorData>
         &lt;PacketTx>34925&lt;/PacketTx>
         &lt;TimeStamp>2018-05-21T03:20:00Z&lt;/TimeStamp>
         &lt;IntranetOut>48871&lt;/IntranetOut>
         &lt;DropPacketRx>0&lt;/DropPacketRx>
         &lt;IntranetIn>350&lt;/IntranetIn>
         &lt;EniId>eni-myENI&lt;/EniId>
         &lt;DropPacketTx>0&lt;/DropPacketTx>
         &lt;PacketRx>4888&lt;/PacketRx>
     &lt;/EniMonitorData>
 &lt;/MonitorData>
&lt;/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.
InvalidEndTime.Malformed	The specified parameter “EndTime” is not valid.	400	The specified parameter **`EndTime`** is invalid.

Error code	Error message	HTTP status code	Description
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.

14.3 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:

Name	Type	Required	Description
			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.

Name	Type	Description
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>
        <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.
InvalidParameter.TooManyDataQueried	Too many data queried.	400	At most 400 data can be returned at a

Error code	Error information	HTTP status code	Description
			time, the specified (`EndTime-StartTime`)/`Peroid` 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.

14.4 CreateSimulatedSystemEvents

Schedules simulated system events for one or more Elastic Compute Service (ECS) instances. The system events that are simulated do not occur in the real system and the simulation does not affect ECS instances.

Description

- You can view the scheduled system events in the ECS console, *ECS API*, or cloud monitoring service.
- The following table describes the life cycle of a simulated system event.

Name	Descript n	Status
`Scheduled`	The simulated	The status for the simulated system event is automatically changed to `Scheduled` after the schedule.

Name	Description	Status
	system event has been scheduled.	
`Executed`	The simulated system event has been executed.	The status for the simulated system event is automatically changed to `Executed` at the scheduled time specified by the NotBefore parameter if no manual intervention is involved.
`Canceled`	The simulated system event has been canceled.	The status for the simulated system event is changed to `Canceled` if you cancel the event by making a ***`CancelSimulatedSystemEvents`*** request.
`Avoided`	The simulated system event has been avoided.	The status for the simulated system event of maintenance-triggered instance restart can be changed to `Avoided` if you *restart the instance* before the scheduled time of the simulated system event. The maintenance-triggered instance restart is indicated by the SystemMaintenance.Reboot value.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: CreateSimulatedSystemEvents.
RegionId	String	Yes	The ID of the region.For more information, call ***`DescribeRegions`*** to obtain the latest region list.

Name	Type	Required	Description
InstanceId.N	String	Yes	The IDs of one or more ECS instances. Value range of N: [1, 100]. The ECS IDs must be displayed in a repeated list format.
EventType	String	Yes	The type of a system event. 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 an instance failure.
NotBefore	String	Yes	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.

Response parameters

Name	Type	Description
EventIdSet	List of event IDs (`EventId`)	The list of simulated event IDs.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CreateSimulatedSystemEvents
&RegionId=cn-hangzhou
&InstanceId. 1=i-instance1
&InstanceId. 2=i-instance1
&EventType=SystemMaintenance.Reboot
&NotBefore=2018-12-01T06:32:31Z
&<Common Request Parameters>
```

Response example

XML format

```
<CreateSimulatedSystemEventsResponse>
 <EventIdSet>
  <EventId>e-xhskHun1256xxxx</EventId>
  <EventId>e-xhskHun1257xxxx</EventId>
 </EventIdSet>
        <RequestId>E69EF3CC-94CD-42E7-8926-F133B86387C0</RequestId>
```

```
</CreateSimulatedSystemEventsResponse>
```

JSON format

```
{
    "RequestId":"E69EF3CC-94CD-42E7-8926-F133B86387C0",
 "EventIdSet":{
  "EventId": "e-xhskHun1256xxxx",
  "EventId": "e-xhskHun1257xxxx"
 }
}
```

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
InvalidNotBefore.Passed	The NotBefore of system event has passed.	400	The specified value for the NotBefore parameter is later than the current time.
InvalidInstanceId.NotFound	Cannot find InstanceId.	400	The specified instance ID does not exist.
SimulatedEventLimitExceeded	The amount of active simulated system event exceeds limit.	400	The amount of active simulated system events has exceeded the limit in the region.
InstanceIdLimitExceeded	The amount of InstanceId specified exceeds limit.	400	The number of specified instance IDs cannot exceed 100 at a time.
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	404	The value for a required parameter is not specified.

14.5 CancelSimulatedSystemEvents

Cancels one or more simulated system events that are in the `Scheduled` or `Executing` status.

After you cancel a simulated system event, the simulated event is in the `Canceled` status.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The operation that you want to perform. Value: CancelSimulatedSystemEvents.
RegionId	String	Yes	The ID of the region.For more information, call ***DescribeRegions*** to obtain the latest region list.
EventId.N	String	Yes	The IDs of the events. Value range of N: [1, 100]. The event IDs must be displayed in a repeated list format.

Response parameters

All are common response parameters. See *Common response parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=CancelSimulatedSystemEvents
&RegionId=cn-hangzhou
EventId. 1="e-xhskHun1256xxxx"
EventId. 2="e-xhskHun1257xxxx"
&<Common Request Parameters>
```

Response example

XML format

```
<CancelSimulatedSystemEventsResponse>
    <RequestId>E69EF3CC-94CD-42E7-8926-F133B86387C0</RequestId>
</CancelSimulatedSystemEventsResponse>
```

JSON format

```
{
    "RequestId":"E69EF3CC-94CD-42E7-8926-F133B86387C0"
}
```

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
EventIdLimitExceeded	The amount of EventId specified exceeds limit.	400	The number of specified simulated event IDs cannot exceed 100 at a time.
InvalidEventId.NotFound	Cannot find EventId.	403	The specified value for the **`EventId.N`** parameter does not exist.
CannotCancelSystemEvent.NotSimulated	Cannot cancel system event generated by system.	403	The error message returned when you cancel a non-simulated system event.
MissingParameter	The input parameter that is mandatory for processing this request is not supplied.	404	The value for a required parameter is not specified.

14.6 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.

Name	Type	Required	Description
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.
InstanceEv entType.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"`, `InstanceEventType. 2="SystemFailure. Reboot"`..... Scope of value: • Systemmaintenance. Reboot: reboot due to system maintenance instance • Systemfailure. Reboot: restart due to system error instance

Name	Type	Required	Description
			• 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.

Name	Type	Description
Instancefu llstatusset	Array of `InstanceFu llStatusType`	Array of full instance status.

InstanceFullStatusType

Name	Type	Description
InstanceId	String	Instance ID.
Scheduleds ystemeventset	Array of `ScheduledS ystemEvent Type`	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.
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>
        </InstanceFullStatusType>
    </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 `EventId` cannot be greater than 100.
InstanceIdLimitExceeded	The amount of InstanceId specified exceeds limit 100.	403	The number of the specified `InstanceId` 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.

14.7 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:

Name	Type	Required	Description
			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.1="Scheduled"`, `InstanceEventCycleStatus.2="Canceled"`... Optional values: • Scheduled: The event is waiting for processing.

Name	Type	Required	Description
			• 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], the events must be displayed in the similar format of `InstanceEventType. 1="Reboot"`, `InstanceEventType. 2="SystemFailure.Reboot"`... Optional values:

Name	Type	Required	Description
			• 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 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

Name	Type	Required	Description
			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.

Name	Type	Description
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-2ze9yxxxxwtqcvai68rl</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-2ze9yxxxxwtqcvai68rl",
        "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.

14.8 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>iVBORw0KGgoA... AAABJRU5ErkJggg==</Screenshot>
</GetInstanceScreenshotResponse>
```

JSON format

```
{
    "RequestId": "22A1933F-AD02-4560-A6A7-53CF2231D942",
    "InstanceId": "i-j5e42sbbthlokka11ech",
    "Screenshot": "iVBORw0KGgoA... 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.
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	*Phased-out instance types* cannot obtain screenshot information.
Throttling	Request was denied due to request throttling.	400	You have made too many frequent requests in a short time.

14.9 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: GetInstanceConsoleOutput.
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.

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>V2VsY29tZSB0byBDZW50T1MgCgpDaGVja2luZyBmaWxlc3lzdG
VtcwpDaGVja2luZyBhbGwgZmlsZSBzeXN0ZW1zLgpbL3NiaW4vZnNjay5leHQ0ICgxKSAt
LSAvXSBmc2NrLmV4dDQgLWEgL2Rldi92ZGExIAovZGV2L3ZkYTE6IGNsZWFuLCAzMjAxNi
8yNjIxNDQwIGZpbGVzLCA0NDc5NzQvMTA0ODU1MDQgYmxvY2tzCgpFbnRlcmluZyBub24t
aW50ZXJhY3RpdmUgc3RhcnR1cApDYWxsaW5nIHRoZSBzeXN0ZW0gYWN0aXZpdHkgZGF0YS
Bjb2xsZWN0b3IgKHNhZGMpLi4uIAoKQnJpbmdpbmcgdXAgaW50ZXJmYWNlIGV0aDA6ICAK
RGV0ZXJtaW5pbmcgSVAgaW5mb3JtYXRpb24gZm9yIGV0aDAuLi4gZG9uZS4KCmFsaXl1bi
1zZXJ2aWNlIHN0YXJ0L3J1bm5pbmcsIHByb2Nlc3MgMTczMwpmaW5pc2hlZAoKQ2VudE9T
IHJlbGVhc2UgNi44IChGaW5hbCkKS2VybmVsIDIuNi4zMi02OTYuMy4yLmVsNi5pNjg2IG
```

```
9uIGFuIGk2ODYKCmlaMnplZDk2ZTQ2MmF5cjBxemw2czhaIGxvZ2luOg==</ConsoleOut
put>
</GetInstanceConsoleOutputResponse>
```

JSON format

```
{
    "RequestId": "22A1933F-AD02-4560-A6A7-53CF2231D942",
    "InstanceId": "i-j5e42sbbthlokka11ech",
    "LastUpdateTime": "2018-03-22 10:04:57",
    "ConsoleOutput": "V2VsY29tZSB0byBDZW50T1MgCgpDaGVja2luZyBm
aWxlc3lzdGVtcwpDaGVja2luZyBhbGwgZmlsZSBzeXN0ZW1zLgpbL3NiaW4vZnNjay5leH
Q0ICgxKSAtLSAvXSBmc2NrLmV4dDQgLWEgL2Rldi92ZGExIAovZGV2L3ZkYTE6IGNsZWFu
LCAzMjAxNi8yNjIxNDQwIGZpbGVzLCA0NDc5NzQvMTA0ODU1MDQgYmxvY2tzCgpFbnRlcm
luZyBub24taW50ZXJhY3RpdmUgc3RhcnR1cApDYWxsaW5nIHRoZSBzeXN0ZW0gYWN0aXZp
dHkgZGF0YSBjb2xsZWN0b3IgKHNhZGMpLi4uIAoKQnJpbmdpbmcgdXAgaW50ZXJmYWNlIG
V0aDA6ICAKRGV0ZXJtaW5pbmcgSVAgaW5mb3JtYXRpb24gZm9yIGV0aDAuLi4gZG9uZS4K
CmFsaXl1bi1zZXJ2aWNlIHN0YXJ0L3J1bm5pbmcsIHByb2Nlc3MgMTczMwpmaW5pc2hlZA
oKQ2VudE9TIHJlbGVhc2UgNi44IChGaW5hbCkKS2VybmVsIDIuNi4zMi02OTYuMy4yLmVs
Ni5pNjg2IG9uIGFuIGk2ODYKCmlaMnplZDk2ZTQ2MmF5cjBxemw2czhaIGxvZ2luOg=="
}
```

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.

Error code	Error message	HTTP status code	Description
InvalidParameter	The “instanceId” provided is not valid.	404	The specified `InstanceId` does not exist.
IncorrectI nstanceStatus	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	*Phased-out instance types* cannot obtain console output.

15 Cloud assistants

15.1 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: CreateCommand.
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 `/root` directory. • For Windows instances, commands are performed in the directory where the cloud assistant client process is located, such as `C:\ProgramData\aliyun\assist\$(version)`.
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 dispath the request	500	Internal error. Please try again later.

15.2 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 [InstanceID 1, 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.

15.3 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-e996287206324975b5fbe1dxxxxxxxxx
&Timed=true
&Frequency=0 0-5 14 * * ?
&<Common Request Parameters>
```

Success response example

XML format

```
<InvokeCommandResponse>
    <RequestId>540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx</RequestId>
    <InvokeId>t-1fad2a8876de47068cc734d5xxxxxxxxx</InvokeId>
</InvokeCommandResponse>
```

JSON format

```
{
    "RequestId":"540CFF28-407A-40B5-B6A5-73Bxxxxxxxxx",
    "InvokeId":"t-1fad2a8876de47068cc734d5xxxxxxxxx"
|
```

Error response example

XML format

```
<Error>
    <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx</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-B6A5-74Bxxxxxxxxx",
    "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.
InvalidCmdId.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 `InstanceId` 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 dispatching your request.	500	Internal error. Please try again later.

15.4 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: StopInvocation.
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 `InvokeId`.
InstanceIds	Array	No	List of instances for stopping 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 (,).

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 `InvokeId` does not exist.
MissingParameter.InstanceId	The input parameter “InstanceIds” 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 `RegionId` does not exist.
InternalError.Dispatch	An internal error occurred when dispath the request	500	Internal error, please try later.

15.5 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 dispath the request	500	Internal error. Please try again later.

15.6 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
InstanceCloudAssitantStatus	*InstanceCloudAssitantStatusSet*	A set of installation statuses of the cloud assistant in the instance.

InstanceCloudAssitantStatusSet

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

Name	Type	Description
CloudAssistantStatus	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.

15.7 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-05946950bc63441dab0a72b8xxxxxxxx</
CommandId>
                <Description>test</Description>
        </Command>
        <Command>
                <Name>Test1</Name>
                <WorkingDir></WorkingDir>
                <CommandContent>Y2QgL3Jvb3Q=</CommandContent>
                <Timeout>3600</Timeout>
                <Type>RunShellScript</Type>
                <CommandId>c-53253cb556d74cb7b7f7309fdxxxxxxxx</
CommandId>
                <Description>test1</Description>
        </Command>
        <Command>
                <Name>Test2</Name>
                <WorkingDir></WorkingDir>
                <CommandContent>eXVtIHVwZGF0ZQ==</CommandContent>
                <Timeout>3600</Timeout>
                <Type>RunShellScript</Type>
                <CommandId>c-57881b01e5ec4403916f8685xxxxxxxx</
CommandId>
                <Description>test2</Description>
        </Command>
        <Command>
                <Name>Test3</Name>
                <WorkingDir></WorkingDir>
                <CommandContent>c2VydmljZSBuZ2lueCByZWxvYWQ=</
CommandContent>
                <Timeout>3600</Timeout>
                <Type>RunShellScript</Type>
                <CommandId>c-742eea007af14043b07c4978xxxxxxxx</
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-A528xxxxxxxx</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-cec3ded3bc434c22aabcfeaaxxxxxxxx",
                "Description": "test4"
            },
        ]
    },
    "PageNumber": 1,
    "RequestId": "36443468-4AE5-44DB-A6FE-A528xxxxxxxx",
    "PageSize": 10
}
```

Error response example

XML format

```
<Error>
    <RequestId>540CFF28-407A-40B5-B6A5-74Bxxxxxxxxx</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 `RegionId`, or you cannot use the resources in the specified region.
InvalidRegionId.NotFound	The RegionId provided does not exist in our items.	404	The specified `RegionId` parameter does not exist.
InternalError.Dispatch	An internal error occurred when dispath the request	500	Internal error. Please try again later.

15.8 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: DescribeInvocations.

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** (`Finished`). Or when you manually stop the invocation of command processes on some target instances (`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`) 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 *`InvocationSetType`*	Type of the command invocation record set.

Type of the command invocation record set (InvocationSetType)

Name	Type	Description
Invocation	Array of *`InvocationType`*	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-a8935b93739442e59ed621a6xxxxxxxx</InvokeId
>
                <CommandName>Test1</CommandName>
                <CommandType>RunShellScript</CommandType>
                <Frequency>0 */20 * * * *</Frequency>
                <InvokeInstances>
                    <InvokeInstance>
                        <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId
>
                        <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
                    </InvokeInstance>
                    <InvokeInstance>
                        <InstanceId>i-uf64isakb713xxxxxxxx</InstanceId
>
                        <InstanceInvokeStatus>running</InstanceIn
vokeStatus>
                    </InvokeInstance>
                </InvokeInstances>
```

```
                <Timed>True</Timed>
                <CommandId>c-e67505b2be3e477dae94c0f0xxxxxxxx</
CommandId>
        </Invocation>
        <Invocation>
                <InvokeStatus>Running</InvokeStatus>
                <InvokeId>t-001937b74e2a4242891fc789xxxxxxxx</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-uf64isakb713xxxxxxxx</InstanceId
>
                        <InstanceInvokeStatus>Running</InstanceIn
vokeStatus>
                    </InvokeInstance>
                </InvokeInstances>
                <Timed>True</Timed>
                <CommandId>c-6b0fb9d72adc421abab462abxxxxxxxx</
CommandId>
        </Invocation>
        <Invocation>
                <InvokeStatus>success</InvokeStatus>
                <InvokeId>t-bd09beef975b4e50883e5df1xxxxxxxx</InvokeId
>
                <CommandName>Test3</CommandName>
                <CommandType>RunShellScript</CommandType>
                <Frequency> </Frequency>
                <InvokeInstances>
                    <InvokeInstance>
                        <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId
>
                        <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
                    </InvokeInstance>
                    sa<InvokeInstance>
                        <InstanceId>i-uf64isakb713xxxxxxxx</InstanceId
>
                        <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
                    </InvokeInstance>
                </InvokeInstances>
                <Timed>false</Timed>
                <CommandId>c-6b0fb9d72adc421abab462abxxxxxxxx</
CommandId>
        </Invocation>
        <Invocation>
                <InvokeStatus>Success</InvokeStatus>
                <InvokeId>t-c7499dfdfdb44e8aa0acce5bxxxxxxxx</InvokeId
>
                <CommandName>test</CommandName>
                <CommandType>RunShellScript</CommandType>
                <Frequency> </Frequency>
                <InvokeInstances>
                    <InvokeInstance>
```

```
                        <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId
>
                        <InstanceInvokeStatus>finished</InstanceIn
vokeStatus>
                    </InvokeInstance>
                </InvokeInstances>
                <Timed>false</Timed>
                <CommandId>c-d2a8ccf6440641ec8635f194xxxxxxxx</
CommandId>
        </Invocation>
        <InstanceId>Invention>
                <InvokeStatus>Running</InvokeStatus>
                <InvokeId>t-e733d4172fee452c98106f58xxxxxxxx</InvokeId
>
                <CommandName>Test4</CommandName>
                <CommandType>RunBatScript</CommandType>
                <Frequency> </Frequency>
                <InvokeInstances>
                    <InvokeInstance>
                        <InstanceId>i-uf614fhehhzmxxxxxxxx</InstanceId
>
                        <Instanceinvokestatus> running </instancein
vokestatus>
                    </InvokeInstance>
                </InvokeInstances>
                <Timed>false</Timed>
                <CommandId>c-3f0e5e4a21c045afa197e036xxxxxxxx</
CommandId>
        </Invocation>
    </Invocations>
    <RequestId>12E7974A-5AA5-4933-A44C-A16Cxxxxxxxx</RequestId>
</DescribeInvocationsResponse>
```

JSON format

```
{
    "TotalCount": 5,
    "PageNumber": 1,
    "PageSize": 10,
    "Invocations": {
        "Invocation": [
            {
                "InvokeStatus": "Running",
                "InvokeId": "t-a8935b93739442e59ed621a6xxxxxxxx",
                "CommandName": "Test1",
                "CommandType": "RunShellScript",
                "Frequency": "0 */20 * * * *",
                "InvokeInstances": {
                    "InvokeInstance": [
                        {
                            "InstanceId": "i-uf614fhehhzmxxxxxxxx",
                            "InstanceInvokeStatus": "finished"
                        },
                        {
                            "InstanceId": "i-uf64isakb713xxxxxxxx",
                            "InstanceInvokeStatus": "running"
                        }
                    ]
                },
                "Timed": true,
                "CommandId": "c-e67505b2be3e477dae94c0f0xxxxxxxx"
```

```
            },
            {
                "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-B6A5-74Bxxxxxxxxx</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 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.
InternalError.Dispatch	An internal error occurred when dispath the request	500	Internal error. Please try again later.

15.9 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.
InvokeId	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-uf614fhehhzmxxxxxxxx</InstanceId>
            <InvokeId>t-001937b74e2a4242891fc789xxxxxxxx</InvokeId>
            <Output>MTU6NDU6MDEK</Output>
            <CommandId>c-6b0fb9d72adc421abab462abxxxxxxxx</CommandId>
            <ExitCode>0</ExitCode>
        </InvocationResult>
```

```
        <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-B6A5-74Bxxxxxxxxx</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 `RegionId`, or you cannot use the resources in the `RegionId`.
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.

15.10 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: ModifyCommand.
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 descriptio n. 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 `/root` directory. • For Windows instances, commands are performed in the directory where the *cloud assistant client* process is located, such as `C:\ProgramData\aliyun\assist\$(version)`.
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-e996287206324975b5fbe1dxxxxxxxxx
&NameId=Test
&TimeOut=120
<Common Request Parameters>
```

Success response example

XML format

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

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 *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
InternalError.Dispatch	An internal error occurred when dispath the request.	500	Internal error. Please try again later.

16 Regions

16.1 DescribeZones

Describes the zones that are available to you in a specified region. For more information, see *Regions and zones*.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: Description zones .
RegionId	String	Yes	The region ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
InstanceChargeType	String	No	Billing methods of the instance. For more information, see *Pricing overview*. Optional values: • PrePaid (Default): Subscription. • PostPaid: Pay-As-You-Go.
SpotStrategy	String	No	Sets your expected spot price for preemptible instances. This parameter takes effect when you set `InstanceChargeType` to `PostPaid`. For more information, see *Preemptible instance*. Optional values: • NoSpot (Default): Bids as a normal Pay-As-You-Go instance. • SpotWithPriceLimit: Sets a bidding price threshold for the spot instance. • SpotAsPriceGo: Sets a highest Pay-As-You-Go price by the bidding system automatically.

Response parameters

Name	Type	Description
Zones	*ZoneType*	A collection that contains `ZoneType` information.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeZones
&RegionId=cn-hangzhou
```

```
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeZonesResponse>
    <Zones>
        <Zone>
            <AvailableResourceCreation>
                <ResourceTypes>Instance</ResourceTypes>
                <ResourceTypes>Disk</ResourceTypes>
            </AvailableResourceCreation>
            <LocalName></LocalName>
            <ZoneId>cn-hangzhou-d</ZoneId>
            <AvailableDiskCategories>
                <DiskCategories>cloud</DiskCategories>
            </AvailableDiskCategories>
        </Zone>
        <Zone>
            <AvailableResourceCreation>
                <ResourceTypes>Instance</ResourceTypes>
                <ResourceTypes>Disk</ResourceTypes>
            </AvailableResourceCreation>
            <LocalName></LocalName>
            <ZoneId>cn-hangzhou-b</ZoneId>
            <AvailableDiskCategories>
                <DiskCategories>cloud</DiskCategories>
            </AvailableDiskCategories>
        </Zone>
    </Zones>
    <RequestId>6DB97BCC-92BA-424D-A7C8-3F6486612BAE</RequestId>
</DescribeZonesResponse>
```

JSON format

```
{
  "RequestId": "A347EF0E-BBCC-4EFA-BD79-27AA3ACFD1BF",
  "Zones": {
    "Zone": [
      {
        "AvailableDiskCategories": {
          "DiskCategories": [
            "cloud"
          ]
        },
        "AvailableResourceCreation": {
          "ResourceTypes": [
            "Instance",
            "Disk"
          ]
        },
        "LocalName": "",
        "ZoneId": "cn-hangzhou-d"
      },
      {
        "AvailableDiskCategories": {
          "DiskCategories": [
            "cloud"
          ]
```

```
        },
        "AvailableResourceCreation": {
          "ResourceTypes": [
            "Instance",
            "Disk"
          ]
        },
        "LocalName": "",
        "ZoneId": "cn-hangzhou-b"
      }
    ]
  }
}
```

Error codes

All are common error codes. For more information, see *API Error Center*.

16.2 DescribeResourcesModification

Retrieves a list of the resources available in a certain zone. You can use this method before you upgrade or downgrade the instance specifications or the system disk capacity.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeResourcesModification.
RegionId	String	Yes	ID of the target region. For more information, call ***DescribeRegions*** to obtain the latest region list.
ResourceId	String	Yes	Resource ID. For example, if the retrieved resources are instances, this parameter can be interpreted as InstanceId.
DestinationResource	String	Yes	Target resource type. Optional values: • InstanceType: Instance type. • SystemDisk: System disk of an instance.
MigrateAcrossZone	Boolean	No	Specifies whether to upgrade the instance among different clusters or not. Default: False. When the `MigrateAcrossZone` is set to `True` and you change the instance configuration according to the returned information, you must make sure that: • For a classic network type instance: — If you upgrade the *Phased-out instance types*, non-I/O optimized instances to I/O optimized

Name	Type	Required	Description
			instances, the instance-related intranet IP addresses, disk device names and license key of the instance may change. For a Linux instance, the system recognizes basic cloud disk (`cloud`) as `xvda` or `xvdb`, ultra cloud disk (`cloud_efficiency`) and SSD disk (`cloud_ssd`) as `vda` or `vdb`. — If your classic network instances are available in the *instance type families*, the private IP of the instances may change. • For a VPC-Connected instance: If you upgrade the *Phased-out instance types*, non-I/O optimized instances to I/O optimized instances, the disk device names and license key of the ECS may change. For a Linux instance, the system recognizes basic cloud disk (`cloud`) as `xvda` or `xvdb`, ultra cloud disk (`cloud_efficiency`) and SSD disk (`cloud_ssd`) as `vda` or `vdb`.
OperationType	String	No	Whether to upgrade or downgrade your resources. Optional values: • Upgrade: Upgrade resources. • Downgrade: Downgrade resources. Default: Upgrade.
InstanceType	String	No	Type of an instance. For more information, see *Instance Type Family*, or call ***`DescribeInstanceTypes`*** to obtain the latest type list. If you set `DestinationResource` to `SystemDisk`, you must specify `InstanceType`.

Response parameters

Name	Type	Description
AvailableZones	Array of *`AvailableZones`*	A collection of zone types.

AvailableZoneType

Name	Type	Description
RegionId	String	Region ID.
ZoneId	String	Zone ID.
Status	String	Resource status. Optional values: • Available: Resources are available. • SoldOut: Resources are unavailable.
AvailableResources	Array of `AvailableResourcesType`	A collection of available resource types.

AvailableResourcesType

Name	Type	Description
Type	String	Resource type. Optional values: • Zone: Zone. • IoOptimized: Whether the instance is I/O optimized or not. • InstanceType: Instance type. • SystemDisk: System disk. • DataDisk: Data disk. • Network: Network type of an instance.
SupportedResources	Array of `SupportedResourcesType`	A collection of supported available resource types.

SupportedResourcesType

Name	Type	Description
Value	String	Name of the Resource.
Status	String	Resource status. Optional values: • Available: Resources are available. • SoldOut: Resources are unavailable.
Min	Integer	Minimum limit of the resource. No value is returned if the parameter is null.

Name	Type	Description
Max	Integer	Maximum limit of the resource. No value is returned if the parameter is null.
Unit	Integer	Resource type unit. No value is returned if the parameter is null.

Examples

Request example

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

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

Response example

XML format

```
<DescribeResourcesModificationResponse>
    <AvailableZones>
        <AvailableZone>
            <ZoneId>cn-hangzhou-d</ZoneId>
            <RegionId>cn-hangzhou</RegionId>
            <Status>Available</Status>
            <AvailableResources>
                <AvailableResource>
                    <Type>instanceType</Type>
                    <SupportedResources>
                        <SupportedResource>
                            <Value>ecs.d1ne.xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                         <SupportedResource>
                            <Value>ecs.d1ne. 2xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                    </SupportedResources>
                </AvailableResource>
            </AvailableResources>
        </AvailableZone>
        <AvailableZone>
            <ZoneId>cn-hangzhou-e</ZoneId>
            <RegionId>cn-hangzhou</RegionId>
            <Status>Available</Status>
            <AvailableResources>
                <AvailableResource>
                    <Type>instanceType</Type>
                    <SupportedResources>
                        <SupportedResource>
                            <Value>ecs.d1ne.xlarge</Value>
                            <Status>Available</Status>
```

```
                        </SupportedResource>
                         <SupportedResource>
                            <Value>ecs.d1ne. 2xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                    </SupportedResources>
                </AvailableResource>
            </AvailableResources>
        </AvailableZone>
    </AvailableZones>
    <RequestId>6DB97BCC-92BA-424D-A7C8-3F6486612BAE</RequestId>
</DescribeResourcesModificationResponse>
```

JSON format

```
{
    "RequestId": "D0233A65-7F00-4B50-8023-101427229D4F",
    "AvailableZones": {
        "AvailableZone": [
            {
                "Status": "available",
                "RegionId": "cn-hangzhou",
                "AvailableResources": {
                    "AvailableResource": [
                        {
                            "Type": "instanceType",
                            "SupportedResources": {
                                "SupportedResource": [
                                    {
                                        "Status": "available",
                                        "Value": "ecs.sn1ne.xlarge"
                                    },
                                    {
                                        "Status": "available",
                                        "Value": "ecs.sn2ne.xlarge"
                                    }
                                ]
                            }
                        }
                    ]
                },
                "ZoneId": "cn-hangzhou-e",
            }
        ]
    }
}
```

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
Invalid.Param	The input parameter DestinationResource that is mandatory for	400	You must specify the parameter

Error code	Error message	HTTP status code	Description
	processing this request is not supplied.		`DestinationResource`.
Unavailable.Regions	The available regions does not exists.	404	The specified `RegionId` is unavailable.
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

16.3 DescribeAvailableResource

Describes a list of the resources available in a certain zone. For example, you can retrieve the resource list in a zone before creating an ECS instance (***`RunInstances`***) in the zone.

Description

When you call this interface, consider the following:

- If you do not specify the `ZondId` parameter, the system returns resources that match the other criteria in all zones in the (`RegionId`) region.
- You can specify the `DestinationResource` parameter to retrieve different types of resource lists, and specify other parameters to refine your search. Options for the DestinationResource `DestinationResource` parameter have dependencies. When you select an option, the options to the left of the option in the chain are also required.
  - Sequence: (`Zone`) > `IoOptimized` > `InstanceType` > `SystemDisk` > `Datadisk`
  - **Samples of parameter values in the sequence**:
    - If you set `DestinationResource` to `SystemDisk`, you must specify the `IoOptimized` and `InstanceType`.
    - If you set `DestinationResource` to `InstanceType`, you must specify the `IoOptimized`.
    - If you set `DestinationResource` to `DataDisk`, you must specify the `IoOptimized`, `InstanceType`, and `SystemDiskCategory`.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeAvailableResource.
RegionId	String	Yes	ID of the target region. You can call ***DescribeRegions*** to obtain the latest region list.
DestinationResource	String	Yes	Resource type to query. Optional values: • Zone: Zone. • IoOptimized: Whether the instance is I/O optimized or not. • InstanceType: Instance type. • SystemDisk: System disk of an instance. • DataDisk: Data disk of an instance. • Network: Network type of an instance.
ZoneId	String	No	Zone ID. If you do not specify `ZoneId`, the system returns resources that match the other criteria in all zones throughout the current region.
InstanceChargeType	String	No	Billing method of resources. For more information, see *pricing overview*. Optional values: • PrePaid: Subscription. • PostPaid: Pay-As-You-Go. Default value: PostPaid.
SpotStrategy	String	No	Sets your expected spot price for preemptible instances. Optional values: • NoSpot: Bids as a normal Pay-As-You-Go instance. • SpotWithPriceLimit: Sets a bidding price threshold for the preemptible instance. • SpotAsPriceGo: Sets a highest Pay-As-You-Go price by the bidding system automatically. Default: NoSpot. The `InstanceChargeType` must be set to `PostPaid` to make `SpotStrategy` valid.
IoOptimized	String	No	Whether it is an I/O-optimized instance or not. Optional values: • none: Non-I/O optimized instance. • optimized: I/O optimized instance.

Name	Type	Required	Description
			If you set `DestinationResource` to `InstanceType`, `SystemDisk` or `DataDisk`, you must specify `IoOptimized` as well.
InstanceType	String	No	Instance type. For more information, see *instance Type Family*, or call ***`DescribeInstanceTypes`*** to obtain the latest type list. If you set `DestinationResource` to `SystemDisk` or `DataDisk`, you must specify the `InstanceType`.
Systemdisk category	String	No	System disk category. Optional values: • Cloud: Basic cloud disk. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: Cloud SSD. • ephemeral_ssd: Ephemeral SSD
Datadiskcategory	String	No	Data disk category. Optional values: • Cloud: Basic cloud disk. • cloud_efficiency: Ultra cloud disk. • cloud_ssd: Cloud SSD. • ephemeral_ssd: Ephemeral SSD
NetworkCategory	String	No	Network type of an ECS instance. Optional values: • Vpc: Virtual Private Cloud. • Classic: Classic network.

Response parameters

Name	Type	Description
AvailableZones	Array of *AvailableZoneType*	A collection of zone types

AvailableZoneType

Name	Type	Description
RegionId	String	Region ID.
ZoneId	String	Zone ID.
Status	String	Resource status. Possible values: • Available: Resources are available.

Name	Type	Description
		• SoldOut: Resources are unavailable.
AvailableResources	Array of *AvailableResourcesType*	A collection of available resource types.

AvailableResourcesType

Name	Type	Description
Type	String	The type of the ECS resource. Possible values: • Zone: Zone. • IoOptimized: Whether the instance is I/O optimized or not. • InstanceType: Instance type. • SystemDisk: System disk. • DataDisk: Data disk of an instance. • Network: Network type of an instance.
SupportedResources	Array of *SupportedResourcesType*	A collection of supported available resource types.

SupportedResourcesType

Name	Type	Description
Value	String	Name of the Resource.
Status	String	Resource status. Possible values: • Available: Resources are available. • SoldOut: Resources are unavailable.
Min	Integer	Minimum limit of a resource type. No value is returned if the parameter is null.
Max	Integer	Maximum limit of a resource type. No value is returned if the parameter is null.
Unit	Integer	Resource type unit. No value is returned if the parameter is null.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeAvailableResource
&RegionId=cn-hangzhou
```

```
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeAvailableResourceResponse>
    <AvailableZones>
        <AvailableZone>
            <ZoneId>cn-hangzhou-d</ZoneId>
            <RegionId>cn-hangzhou</RegionId>
            <Status>Available</Status>
            <AvailableResources>
                <AvailableResource>
                    <Type>instanceType</Type>
                    <SupportedResources>
                        <SupportedResource>
                            <Value>ecs.d1ne.xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                        <SupportedResource>
                            <Value>ecs.d1ne. 2xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                    </SupportedResources>
                </AvailableResource>
            </AvailableResources>
        </AvailableZone>
        <AvailableZone>
            <ZoneId>cn-hangzhou-e</ZoneId>
            <RegionId>cn-hangzhou</RegionId>
            <Status>Available</Status>
            <AvailableResources>
                <AvailableResource>
                    <Type>instanceType</Type>
                    <SupportedResources>
                        <SupportedResource>
                            <Value>ecs.d1ne.xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                         <SupportedResource>
                            <Value>ecs.d1ne. 2xlarge</Value>
                            <Status>Available</Status>
                        </SupportedResource>
                    </SupportedResources>
                </AvailableResource>
            </AvailableResources>
        </AvailableZone>
    </AvailableZones>
    <RequestId>6DB97BCC-92BA-424D-A7C8-3F6486612BAE</RequestId>
</DescribeAvailableResourceResponse>
```

JSON format

```
{
    "RequestId": "D0233A65-7F00-4B50-8023-101427229D4F",
    "AvailableZones": {
        "AvailableZone": [
            {
                "Status": "available",
```

```
                "RegionId": "cn-hangzhou",
                "AvailableResources": {
                    "AvailableResource": [
                        {
                            "Type": "instanceType",
                            "SupportedResources": {
                                "SupportedResource": [
                                    {
                                        "Status": "available",
                                        "Value": "ecs.sn1ne.xlarge"
                                    },
                                    {
                                        "Status": "available",
                                        "Value": "ecs.sn2ne.xlarge"
                                    }
                                ]
                            }
                        }
                    ]
                },
                "ZoneId": "cn-hangzhou-e",
            }
        ]
    }
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see *API Error Center*.

Error code	Error messages	HTTP status code	Meaning
Invalid.Param	The input parameter DestinationResource that is mandatory for processing this request is not supplied.	400	You must specify the `DestinationResource`.
Invalid.InstanceChargeType	The specified InstanceChargeType is not valid.	400	The specified `InstanceChargeType` does not exist.
Invalid.IoOptimized	The specified IoOptimized is not valid.	404	The specified parameter `IoOptimized` is invalid.
Invalid.NetworkCategory	The specified NetworkCategory is not valid.	404	The specified NetworkCategory is invalid.

Error code	Error messages	HTTP status code	Meaning
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.
Unavailable.Regions	The available regions does not exists.	404	You are not allowed to access the specified `RegionId`.

17 Tags

17.1 AddTags

Adds or overwrites one or more tags to your ECS resource. You can add tags to ECS resources such as instances, disks, snapshots, images, and security groups for easier and customizable operation and management.

Description

When you call this interface, consider the following:

- Up to 20 tags can be added to each ECS resource.
- The key (`Tag.n.Key`) and value (`Tag.n.Value`) of the tag must be key-value matched.
- If the key (`Tag.n.Key`) is already added for the specified resource, the former value (`Tag.n.Value`) is overwritten with the new one.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: AddTags.
RegionId	String	Yes	The ID of the region to which the ECS resource belongs. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
ResourceType	String	Yes	The type of the ECS resource. Optional values: • disk • instance • image • securitygroup • snapshot All values must be lowercase.
ResourceId	String	Yes	The resource ID. For example, if you set the `ResourceType` to `instance`, the ResourceId can be interpreted as InstanceId.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Name	Type	Required	Description
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Response parameters

All are common parameters. See *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=AddTags
&ResourceId=s-946ntx4wr
&ResourceType=snapshot
&RegionId=cn-shenzhen
&Tag. 1. Key=test
&Tag. 1. Value=api
&<Common Request Parameters>
```

Response example

XML format

```
<AddTagsResponse>
    <RequestId>C46FF5A8-C5F0-4024-8262-B16B639225A0</RequestId>
</AddTagsResponse>
```

JSON format

```
{
  "RequestId": "C46FF5A8-C5F0-4024-8262-B16B639225A0"
}
```

Error codes

Error codes specific to this interface are as follows. For more information, see *API Error Center*.

Error codes	Error message	HTTP status code	Description
InvalidTag.Mismatch	The specified Tag.n.Key and Tag.n.Value are not match.	400	The key (`Tag.n.Key`) and value (`Tag.n.Value`) of the tag must match key values.

Error codes	Error message	HTTP status code	Description
InvalidTagCount	The specified tags are beyond the permitted range.	400	You can specify a maximum of five tags.
InvalidTagKey.Malformed	The specified Tag.n.Key is not valid.	400	The specified `Tag.n.Key` is invalid.
InvalidTagValue.Malformed	The specified Tag.n.Value is not valid.	400	The specified `Tag.n.Value` is invalid.
OperationDenied.QuotaExceed	The quota of tags on resource is beyond permitted range.	400	Up to 20 tags can be added to each ECS resource.
InvalidResourceId.NotSupported	The specified ResourceId does not support tagging.	403	You cannot add tags to the specified ECS resource.
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified `RegionId` does not exist.
InvalidResourceId.NotFound	The specified ResourceId is not found in our records.	404	The specified `ResourceId` does not exist.
InvalidResourceType.NotFound	The ResourceType provided does not exist in our records.	404	The specified `ResourceType` does not exist.

17.2 RemoveTags

Removes one or more tags from the specified ECS resource, such as instances, disks, snapshots, images, and security groups.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: RemoveTags.
RegionId	String	Yes	The ID of the region to which the ECS resource belongs. For more information, call ***`DescribeRegions`*** to obtain the latest region list.
ResourceType	String	Yes	Indicates the type of resource when you bind a tag to it. Optional values:

Name	Type	Required	Description
			• disk • instance • image • securitygroup • snapshot All values are in lowercase.
ResourceId	String	Yes	Resource ID. For example, if you set the `ResourceType` to `instance`, the resource ID can be interpreted as the instance ID.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".

Response parameters

For more information about all the common response parameters, see *Common parameters*.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=RemoveTags
&ResourceId=s-946ntx4wr
&ResourceType=snapshot
&RegionId=cn-shenzhen
&Tag.1.Key=test
&Tag.1.Value=api
&<Common Request Parameters>
```

Response example

XML format

```
<RemoveTagsResponse>
    <RequestId>6A2C8AB5-E15D-478C-B56A-CF3DAF060028</RequestId>
```

```
</RemoveTagsResponse>
```

JSON format

```
{
  "RequestId": "6A2C8AB5-E15D-478C-B56A-CF3DAF060028"
}
```

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
InvalidTagCount	The specified tags are beyond the permitted range.	400	You can remove up to five tags from specified ECS resource in this query request.
InvalidResourceId.NotSupported	The specified ResourceId does not support tagging.	403	You cannot remove tags from the specified ECS resource.
InvalidResourceId.NotFound	The specified ResourceId is not found in our records.	404	The specified `ResourceId` does not exist.
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified `RegionId` does not exist.
InvalidResourceType.NotFound	The ResourceType provided does not exist in our records.	404	The specified `ResourceType` does not exist.

17.3 DescribeTags

Describes one or more of your available tags. You can set criteria to match tags, such as by specifying the ECS resource types, resource IDs, tag keys, or tag values. We use the AND (&&) operator for your conditions and return a specific list of results from your operation.

Description

In particular, if a tag key (`Tag.n.Key`) is specified, but no tag value (`Tag.n.Value`) is specified, all tags related to the tag-key are queried. If the tag key-value is specified, tag that exactly matches the queried key-value.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeTags.
RegionId	String	Yes	Regional ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
ResourceType	String	Yes	The type of the ECS resource. Optional values: • disk • instance • image • securitygroup • snapshot Values are case-sensitive.
ResourceId	String	No	The resource ID. For example, if you set the `ResourceType` to `instance`, the ResourceId the ResourceId can be interpreted as InstanceId.
Tag.n.Key	String	Yes	The key of a tag of which n is from 1 to 20. Once you use this parameter, it cannot be a null string. It can be up to 64 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
Tag.n.Value	String	Yes	The value of a tag of which n is a number from 1 to 20. Once you use this parameter, it can be a null string. It can be up to 128 characters in length. It cannot begin with "aliyun", "acs:", "http://", or "https://".
PageNumber	Integer	No	Displays the tags on several pages. Initial value: 1. Default value: 1.
PageSize	Integer	No	The maximum entries on a page. Maximum: 100. Default: 50.

Response parameters

Name	Type	Description
Tags	*TagSetItem*	Returns a specific list of tags.
TotalCount	Integer	The total number of tags.
PageSize	Integer	The maximum entries on a page.

Name	Type	Description
PageNumber	Integer	Displays the tags on several pages.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeTags
&ResourceType=snapshot
&ResourceId=s-946ntx4wr
&RegionId=cn-hangzhou
&Tag. 1. Key=test
&Tag. 1. Value=api
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeTagsResponse>
    <RequestId>B04B8CF3-4489-432D-83BA-6F128E4F2295</RequestId>
    <PageNumber>1</PageNumber>
    <PageSize>50</PageSize>
    <Tags>
        <Tag>
            <TagKey>test</TagKey>
            <TagValue>api</TagValue>
        </Tag>
    </Tags>
    <TotalCount>1</TotalCount>
</DescribeTagsResponse>
```

JSON format

```
{
  "PageNumber": 1,
  "PageSize": 50,
  "RequestId": "B04B8CF3-4489-432D-83BA-6F128E4F2295",
  "Tags": {
    "Tag": [
      {
        "TagKey": "test",
        "TagValue": "api"
      }
    ]
  },
  "TotalCount": 1
}
```

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
invalidTagKey.Malformed	The parameter Tag.n.Key is illegal.	400	The specified `Tag.n.Key` is invalid.
InvalidTagValue.Malformed	The parameter Tag.n.Value is illegal.	400	The specified `Tag.n.Value` is invalid.
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified `RegionId` does not exist.
InvalidResourceType.NotFound	The ResourceType provided does not exist in our records.	404	The specified `ResourceType` does not exist.

18 Others

18.1 DescribeTasks

Queries the progress of a specified asynchronous task.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeTasks.
RegionId	String	Yes	Region ID. For more information, call ***DescribeRegions*** to obtain the latest region list.
TaskAction	String	Yes	The specified action to be queried. Optional values: • ImportImage: Query the task of (***ImportImage***). • ExportImage: Query the task of (***ExportImage***).
TaskIds	String	No	Task ID. Up to 100 task IDs are supported, and they are separated by comma (`,`).
TaskStatus	String	No	Task status. Optional values: • Finished • Processing • Waiting • Deleted • Paused Default value: null.

Name	Type	Required	Description
			Currently, you can query the task in the `Finished` and `Processing` status, and other value is ignored in the request.
StartTime	String	No	Query by creation time, start time of the creation time period. The time is displayed in the format specified in the ISO8601 standard, and the UTC time is used. Format : YYYY-MM-DDThh: mmZ.
EndTime	String	No	Query by creation time, start time of the creation time period. The time is displayed in the format specified in the ISO8601 standard, and the UTC time is used. It is in the format of YYYY-MM-DDThh:mmZ.
PageNumber	Integer	No	Page number of the query result. Initial value: 1, default value : 1.
PageSize	Integer	No	Number of lines on each page, set for pagination query. Maximum value: 100, default value: 10.

Response parameters

Name	Type	Description
TaskSet	*TaskType*	TaskSet

Name	Type	Description
RegionId	String	Regional ID.
TotalCount	Integer	Number of items in the list.
PageNumber	Integer	Current page number.
PageSize	Integer	Number of items included in the current page.

Examples

Request example

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

Response example

XML format

```
<DescribeTasksResponse>
  <PageNumber>1</PageNumber>
  <TotalCount>2</TotalCount>
  <PageSize>2</PageSize>
  <RegionId>cn-hangzhou</RegionId>
  <RequestId>E5C82807-5588-4661-9A96-350B206A7623</RequestId>
  <TaskSet>
    <Task>
      <CreationTime>2015-11-24T12:50Z</CreationTime>
      <FinishedTime>2015-11-24T12:50Z</FinishedTime>
      <SupportCancel>true</SupportCancel>
      <TaskAction>IMPORT_IMAGE</TaskAction>
      <TaskStatus>Finished</TaskStatus>
      <TaskId>t-23mo8zf9w</TaskId>
    </Task>
    <Task>
      <CreationTime>2015-11-23T15:10Z</CreationTime>
      <FinishedTime>2015-11-23T15:16Z</FinishedTime>
      <SupportCancel>true</SupportCancel>
      <TaskAction>IMPORT_IMAGE</TaskAction>
      <TaskStatus>Finished</TaskStatus>
      <TaskId>t-23sgu0dyj</TaskId>
    </Task>
  </TaskSet>
</DescribeTasksResponse>
```

JSON format

```
{
    "PageNumber": 1,
    "TotalCount": 2,
    "PageSize": 2,
    "RegionId": "cn-hangzhou",
```

```
    "RequestId": "F746C690-D9EA-4F87-AF31-8E1910FAB541",
    "TaskSet": {
        "Task": [
            {
                "CreationTime": "2015-11-24T12:50Z",
                "FinishedTime": "2015-11-24T12:50Z",
                "SupportCancel": true,
                "TaskAction": "ImportImage",
                "TaskStatus": "Finished",
                "TaskId": "t-23mo8zf9w"
            },
            {
                "CreationTime": "2015-11-23T15:10Z",
                "FinishedTime": "2015-11-23T15:16Z",
                "SupportCancel": true,
                "TaskAction": "ImportImage",
                "TaskStatus": "Finished",
                "TaskId": "t-23sgu0dyj"
            }
        ]
    }
}
```

Error codes

Error codes specific to this interface are as follows. For more error codes, see *API Error Center*.

Error code	Error message	HTTP status code	Meaning
MissingParameter	An input parameter “RegionId” that is mandatory for processing the request is not supplied.	400	The required parameter `RegionId` is missing.
InvalidRegionId.NotFound	The specified region not found.	400	The specified `RegionId` does not exist.

18.2 DescribeTaskAttribute

Describes the details about one or more tasks. Currently, the tasks that can be queried are the importing image action and the exporting image action.

Request parameters

Name	Type	Required	Description
Action	String	Yes	The name of this interface. Value: DescribeTaskAttribute.
RegionId	String	Yes	The region ID. Call ***`DescribeRegions`*** to obtain the latest region list.

Name	Type	Required	Description
TaskId	String	No	Task ID. You can call ***DescribeTasks*** to obtain the list of task IDs.

Response parameters

Name	Type	Description
askId	String	The task ID.
TaskAction	String	The specified action.
RegionId	String	The region ID.
TaskStatus	String	The task status.
Progress	String	The task progress.
SupportCancel	Boolean	Whether the task can be canceled (***CancelTask***) or not. Possible values: • True • False
SuccessCount	Integer	The number of tasks that were completed.
FailedCount	Integer	The number of failed tasks.
CreationTime	String	Task creation time. The time is displayed in the format specified in the *ISO8601* standard, and the UTC time is used. Format: YYYY-MM-DDThh:mm:ssZ.
FinishedTime	String	Task completion time. The time is displayed in the format specified in the ISO8601 standard, and the UTC time is used. Format: YYYY-MM-DDThh:mm:ssZ.

Examples

Request example

```
https://ecs.aliyuncs.com/?Action=DescribeTaskAttribute
&RegionId=cn-hangzhou
&TaskId=t-23ym6mvro
&<Common Request Parameters>
```

Response example

XML format

```
<DescribeTaskAttributeResponse>
  2018-03-06T07:33:51Z
  <OperationProgressSet>
    <OperationProgress>
```

```
      <RelatedItemSet>
        <RelatedItem>
          <Name>OSSBucket</Name>
          <Value>image-temp</Value>
        </RelatedItem>
        <RelatedItem>
          <Name>OSSObject</Name>
          <Value>MYOSSPRE_m-23f8tcp8y_t-23ym6mvro.vhd</Value>
        </RelatedItem>
        <RelatedItem>
          <Name>ImageFormat</Name>
          <Value>vhd</Value>
        </RelatedItem>
      </RelatedItemSet>
      <ErrorMsg/>
      <ErrorCode/>
      <OperationStatus>Success</OperationStatus>
    </OperationProgress>
  </OperationProgressSet>
  <FinishedTime>2015-11-23T02:19Z</FinishedTime>
  <FailedCount>0</FailedCount>
  <SupportCancel>true</SupportCancel>
  <TotalCount>1</TotalCount>
  <SuccessCount>1</SuccessCount>
  <RequestId>EF0C5969-279B-49C8-AD83-BACCC74DD38C</RequestId>
  <RegionId>cn-hangzhou</RegionId>
  <TaskAction>ExportImage</TaskAction>
  <TaskStatus>Finished</TaskStatus>
  <TaskProcess>100%</TaskProcess>
  <TaskId>t-23ym6mvro</TaskId>
</DescribeTaskAttributeResponse>
```

JSON format

```
{
    "CreationTime": "2015-11-23T02:13Z",
    "OperationProgressSet": {
        "OperationProgress": [
            {
                "RelatedItemSet": {
                    "RelatedItem": [
                        {
                            "Name": "OSSBucket",
                            "Value": "image-temp"
                        },
                        {
                            "Name": "OSSObject",
                            "Value": "MYOSSPRE_m-23f8tcp8y_t-23ym6mvro
.vhd"
                        },
                        {
                            "Name": "ImageFormat",
                            "Value": "vhd"
                        }
                    ]
                },
                "ErrorMsg": "",
                "ErrorCode": "",
                "OperationStatus": "Success"
            }
        ]
```

```
    },
    "FinishedTime": "2015-11-23T02:19Z",
    "FailedCount": 0,
    "SupportCancel": true,
    "TotalCount": 1,
    "SuccessCount": 1,
    "RequestId": "4BE2C7FE-C7A4-4675-A153-174E032AABFB",
    "RegionId": "cn-hangzhou",
    "TaskAction": "ExportImage",
    "TaskStatus": "Finished",
    "TaskProcess": "100%",
    "TaskId": "t-23ym6mvro"
}
```

Error codes

All are common error codes. For more information, see *common error codes*.

18.3 DescribeAccountAttributes

Queries the maximum number of ECS resources that you can create in a region. Specifically, you can use this interface to query the numbers of security groups, elastic network interfaces (ENIs), Pay-As-You-Go vCPU cores, preemptible instance vCPU cores, and dedicated hosts, local network type, and whether your account has been authenticated by real name.

Description

After *registering* with an Alibaba Cloud account, you can create a certain number of ECS resources in different regions. For more information, see *Limitations*. To expand the resource capacity, you can *open a ticket* as needed.

Request parameters

Name	Type	Required	Description
Action	String	Yes	Name of this interface. Value: DescribeAccountAttributes.
RegionId	String	Yes	Region ID. You can call ***DescribeRegions*** to query the latest region list.
ZoneId	String	No	Zone ID.
AttributeName.N	String	No	Resource usage limit. `N` ranges from 1 to 8. Value range: • instance-network-type: Available network types in the current region. • max-security-groups: The number of security groups.

Name	Type	Required	Description
			• max-elastic-network-interfaces: Number of ENIs in the current region. • max-postpaid-instance-vcpu-count: Number of Pay-As-You-Go instance vCPU cores in the current region. • max-spot-instance-vcpu-count: Number of preemptible instance vCPU cores in the current region. • max-delicated-hosts: Number of dedicated hosts in the current region. • supported-postpaid-instance-types: Pay-As-You-Go I/O optimization instance types in the current region. • real-name-authentication: Whether your account has been authenticated by real name. Default value: null.

Response parameters

Name	Type	Description
AccountAttributeItem	Array of *AccountAttributeItem*	A collection of information about account privileges in a specified region.

AccountAttributeItems

Name	Type	Description
AttributeName	String	Resource usage limit. Value range: • instance-network-type: Available network types in the current region. • max-security-groups: Number of security groups. • max-elastic-network-interfaces: Number of ENIs in the current region. • max-postpaid-instance-vcpu-count: Number of Pay-As-You-Go instance vCPU cores in the current region. • max-spot-instance-vcpu-count: Number of preemptible instance vCPU cores in the current region. • max-delicated-hosts: Number of dedicated hosts in the current region. • supported-postpay-instance-types: Pay-As-You-Go I/O optimization instance types in the current region.

Name	Type	Description
		• real-name-authentication: Whether your account has been authenticated by real name.
AttributeValues	*ValueItem*	Resource usage limit.

ValueItem

Name	Type	Description
Value	String	Resource usage limit in the current region or all regions. Value range: • The value of 0 or a positive integer is returned when the value is `max-security-groups`, `max-elastic-network-interfaces`, `max-postpaid-instance-vcpu-count`, `max-delicated-hosts`, or `max-spot-instance-vcpu-count`. • A possible value of instance types is returned when the value is `supported-postpay-instance-types` For more information, see *Instance type families*. • The value of yes, none, or unnecessary is returned when the value is `real-name-authentications`. • The value of vpc or classic is returned when the value is `instance-network-type`.

Examples

Request example

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

Response example

XML format

```
<DescribeAccountAttributesResponse>
    <AccountAttributeItems>
        <AccountAttributeItem>
            <AttributeName>max-security-groups</AttributeName>
            <AttributeValues>
                <ValueItem>
                    <Value>800</Value>
                <ValueItem>
            </AttributeValues>
        </AccountAttributeItem>
          <AccountAttributeItem>
```

```
            <AttributeName>instance-network-type</AttributeName>
            <AttributeValues>
                <ValueItem>
                    <Value>vpc</Value>
                    <Value>classic</Value>
                <ValueItem>
            </AttributeValues>
        </AccountAttributeItem>
     </AccountAttributeItems>
    <RequestId>675B6D89-A3EB-4987-BAF3-610591E0D019</RequestId>
</DescribeAccountAttributesResponse>
```

JSON format

```
{
    "AccountAttributeItems": {
        "AccountAttributeItem": [
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "100"
                        }
                    ]
                },
                "AttributeName": "max-security-groups"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "2"
                        }
                    ]
                },
                "AttributeName": "max-dedicated-hosts"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "1000"
                        }
                    ]
                },
                "AttributeName": "max-postpaid-instance-vcpu-count"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "1000"
                        }
                    ]
                },
                "AttributeName": "max-spot-instance-vcpu-count"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
```

```
                            "Value": "5000"
                        }
                    ]
                },
                "AttributeName": "max-elastic-network-interfaces"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "yes"
                        }
                    ]
                },
                "AttributeName": "real-name-authentication"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "vpc"
                        }
                    ]
                },
                "AttributeName": "instance-network-type"
            },
            {
                "AttributeValues": {
                    "ValueItem": [
                        {
                            "Value": "ecs.f3-c16f1.4xlarge"
                        },
                        {
                            "Value": "ecs.g5.2xlarge"
                        }
                    ]
                },
                "AttributeName": "supported-postpaid-instance-types"
            }
        ]
    },
    "RequestId": "8CE45CD5-31FB-47C2-959D-CA8144CE9F42"
}
```


Error codes

Error codes specific to this interface are as follows.

Error code	Error message	HTTP status code	Meaning
InvalidRegionId.NotFound	The specified RegionId does not exist.	404	The specified `RegionId` does not exist.

19 Data types

19.1 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.
HostOperator	String	Data center carrier of a physical connection AP.

19.2 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.

19.3 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.

Name	Type	Description
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.

19.4 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.
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.

Name	Type	Description
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	*EipAddressAssociateType*	EIP binding information.
InnerIpAddress	*IpAddressSetType*	Intranet IP address.
OperationLocks	*OperationLocksType*	Reason why an instance is locked.
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 `SpotStrategy=SpotWithPriceLimit`. 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.

Name	Type	Description
		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.
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.

19.5 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.

19.6 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.

19.7 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.

19.8 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

Name	Type	Description
		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.

19.9 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.

19.10 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.

19.11 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.

19.12 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.

19.13 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.

19.14 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.

19.15 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.

19.16 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.

19.17 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.

20 Appendix

20.1 Why only ten entries are returned for query request by using APIs or SDK

For some APIs query request, where returns a large amount of information, the returned data is usually displayed in pages for readability. Take the DescribeImages as an example, if 39 entries are returned, the result is displayed on four pages by default, with 10 entries on each page. Thus, the returned data looks incomplete.

Cause analysis

For example, when you query the available official public images in the region of Asia Pacific SE 1 (Singapore) by ***DescribeImages***, if 39 entries of data is returned, the result in **TotalCount** is split into four pages by default. You can add the parameter **PageSize** in your request, and set it to a value greater than 39. If Java SDK is used, **PageSize** can be set to a value greater than 39 by the **setPageSize** method in the Request object. Then the data about 39 images is returned once.

To display more data, you can add the **PageSize** and **PageNumber** parameters in your query request according to the following table.

Parameter	Type	Required	Description
PageNumber	Integer	No	Page number of the resource status list. Initial value: 1. Default value: 1.
PageSize	Integer	No	Number of query entries on each page, configured during pagination query. Maximum value: 100. Default value: 10.

Default display setting sample in Java SDK

By default, the value of **PageSize** is `10`. If the value of **PageSize** is not added in a request, null is returned by **getPageSize**. The API server sets **PageSize** to `10` by default.

See the following Java SDK snippet for example:

```
DescribeImagesRequest describe = new DescribeImagesRequest();
        //describe.setPageSize();//By default value of PageSize is 10.
        describe.setRegionId("cn-hangzhou");
        describe.setImageOwnerAlias("system");
        System.out.println("PageSize of the current request:"+describe
.getPageSize());
```

```
        DescribeImagesResponse response
                = client.getAcsResponse(describe);

        System.out.println("Total number of images:"+response.
getTotalCount());
        System.out.println("Number of images in the returned response
="+response.getImages().size());
```

Customize the display setting in Java SDK

In this sample, we use the **`setPageSize()`** method in Java SDK to **`PageSize`** to 50. Then, all images are returned at a time.

See the following Java SDK snippet for example:

```
DescribeImagesRequest describe = new DescribeImagesRequest();
        describe.setPageSize(50);//Here in the Request, the value of
PageSize is set to 50 by the setPageSize() method.
        describe.setRegionId("cn-hangzhou");
        describe.setImageOwnerAlias("system");
        System.out.println("PageSize of the current request:"+describe
.getPageSize());
        try {
            DescribeImagesResponse response
                = client.getAcsResponse(describe);

            System.out.println("Total number of images:"+response.
getTotalCount());
            System.out.println("Number of images in the returned
response="+response.getImages().size());
```

Note:

The maximum value of **`PageSize`** is `100`. If the query result includes more than 100 entries of data, the data on the last few pages must be obtained by **`PageNumber`**, namely, multiple requests are submitted to obtain all the returned data, with **`PageNumber`** setting to 1, 2, 3… respectively. You can also specify the value of **`PageNumber`** in your request by **`setPageNumber()`**.

20.2 Update history

API version: May 26, 2014

Last update: April 25, 2017

Release date	Update	Description
April 25, 2017	Added SSH key pair APIs.	• Added the CreateKeyPair API to create an SSH key pair.

Release date	Update	Description
		• Added the DeleteKeyPairs API to delete SSH key pairs . • Added the DescribeKeyPairs API to query SSH key pairs. • Added the ImportKeyPair API to import an SSH key pair. • Added the AttachKeyPair API to bind an SSH key pair to an ECS instance. • Added the DetachKeyPair API to unbind an SSH key pair from an ECS instance.
April 1, 2016	Added the snapshot APIs.	• Added the CreateAutoSnapshotPolicy API to create an automatic snapshot policy. • Added the DeleteAutoSnapshotPolicy API to release an automatic snapshot policy. • Added the ModifyAutoSnapshotPolicyEx API to modify an automatic snapshot policy. • Added the DescribeAutoSnapshotPolicyEx API to query an automatic snapshot policy. • Added the ApplyAutoSnapshotPolicy API to execute an automatic snapshot policy. • Added the CancelAutoSnapshotPolicy API to cancel an automatic snapshot policy.

Release date	Update	Description
December 22, 2015	Added the image import and task management APIs.	• Added the ImportImage API to import custom images of users. • Added the DescribeTasks API to query a task list. • Added the DescribeTaskAttribute API to query details of a task. • Added the CancelTask API to cancel a task.
December 9, 2015	Modified the tag APIs.	• Deprecated the DescribeResourceByTags API. • Set ResourceId to mandatory in the RemoveTags API. • Set DescribeInstances to support filtering based on the instance type families.
November 19, 2015	Launched the new instance series.	• Added the DescribeInstanceTypeFamilies API to query information about the instance type families. • Set DescribeInstances to support filtering based on the instance type families. • Added AvailableInstanceTypes to ZoneType, which indicates all instance types that can be created in the zone. • Added the instance types of series II to the returned results.
October 10, 2015	Launched HaVip.	Supported HaVip-related APIs.
September 4, 2015	Launched the ultra cloud disk.	Supported creation of the ultra cloud disk by setting cloud_efficiency.

Release date	Update	Description
August 20, 2015	Launched the Tag function.	You can group resources by tags.
August 4, 2015	Launched the VPC function.	Supported creation of VPC instances. • Added the VPC-related APIs. • Added the VRouter-related APIs. • Added the VSwitch-related APIs. • Added the EIP-related APIs . • Added the RouteTable-related APIs.
May 15, 2015	Launched the shared image.	Added the shared image API.
May 14, 2015	Modified RAM authorization mode from four-step authorization to five-step authorization.	• Added the requirement that accountid should be specified for the RAM authorization mode. • The original four-step authorization mode is still compatible, but the new five-step authorization is recommended.
April 21, 2015	Added the disk resizing function.	• Added the ResizeDisk API. • Modified error codes for some APIs.
March 1, 2015	Added the Chinese description of error codes.	• Added the Chinese description of error codes related to APIs. • Added the missing parameters for security group APIs. • Added the security group API ModifySecurityGroupAttribute.

Release date	Update	Description
February 6, 2015	Converted into online files, and added VPC APIs, bug fix information, and small adjustments.	• Added VPC APIs. • Added new instance types. • Added the input parameter of EnableAutoSnapshot for the ModifyDiskAttribute API, and added the output parameter of EnableAutoSnapshot for the DescribeDisks API. • Corrected the measurement units of InternetTX, InternetRX, IntranetTX, and IntranetRX for DescribeInstanceMonitorData.
July 23, 2014	Added support for zones, independent basic cloud disks, and automatic snapshots.	• Added the input parameter of ZoneId (zone) for some APIs. • Modified output parameters of some query APIs. • Added error codes and detailed error code scenarios of each API. • Updated a large number of sample codes. • Added one topic to describe the API actions when an account is in arrears or is locked for security reasons. • Added the status chart and status table of independent basic cloud disks.
April 3, 2014	Made some modifications for global availability.	• Added and deleted some APIs. • Added some error codes. • Described in detail the possible error codes of each API. • Modified the optional values of some parameters.

Release date	Update	Description
		• Improved API descriptions. • Used same RequestId for the same API. • Added the limitations on CreateImage/AddDisk when snapshots were created before and on July 15, 2013 . • Added the limitation for CreateInstance: If the instance memory is 512M, Windows operating system is not supported. • If the instance memory is 4G or above, a 32-bit operating system is not supported. • Adjusted the DescribeIn stanceMonitorData code example and added the InstanceId and Time parameters.
May 22, 2013	Supplemented descriptions of some instance, disk, and snapshot APIs.	Supplemented descriptions of some instance, disk, and snapshot APIs.
April 10, 2013	Added some functions, including resetting instances , displaying snapshot names , and querying specified instances.	• Added the ResetInstance API. • Added the SnapshotName attribute for snapshots. • Added InstanceId for GetMonitorData to query monitoring information of the specified instance. • Supplemented API descriptions.
January 24, 2013	Completed the first release of version on May 26, 2014.	Provided operation APIs related to instances, disks, images, snapshots, security

Release date	Update	Description
		groups, public IP addresses, regions, and monitoring.