

# Elastic Compute Service

## API Reference

# API Reference

## Introduction

Welcome to AliCloud's Elastic Compute Service (ECS). You can use this document to get familiar with the relevant API operations of the ECS service.

**Before using these APIs, make sure that you fully understand the ECS product, user agreements, and billing methods.**

## *Glossary*

Term	Full Name	Description
Instance	ECS Instance	It is a server virtualized by a physical server by using the virtualization technology.
Region		It represents the geographic location where the resources are located. Each region contains a group of available zones.
Zone	Availability Zone	Zones are physical areas in the same region with independent power grids and networks. The network latency for ECS instances within the same zone is less. Intranet communication can take place between zones in the same region, and fault tolerance can be performed between zones.
Image	Image File	The image file consists of the OS and application software can be made into image files. You can select one image to initialize ECS instances. Images are required to create instances. A newly created instance copies the OS and software configuration from the image file. Therefore,

		AliCloud provides different image files for different operating systems.
Disk		Disk is a storage device for instances.
Snapshot		A snapshot is used for recovering data of the disk. It contains the disk data at the specified time and can be used to recover disk data or create user-defined images.
IP		Public IP address on the Internet.
SecurityGroup	Security Group	You can attach security groups to instances. Security policies can be defined for security groups. Each instance must belong to one security group. One instance may also belong to multiple security groups. The security policies of a security group apply to all instances in the security group.
CIDR	Classless Inter-Domain Routing	CIDR is a new addressing mode used in the Internet. Compared with the conventional class A, class B, and class C addressing schemes, CIDR implements more efficient IP address allocation. For example, to convert the IP segment 125.203.96.0 - 125.203.127.255 into CIDR format, find the same first 19 bits: '125.203.0110 0000.0000 0000' to '125.203.0111 1111.1111 1111' can be represented in 125.203.96.0/19

## ***Description of Business Restrictions and Type Constraints***

In ECS, the quantities of instances, security groups, and other resources for each user is limited.

The specifications such as the instance type, number of disks attached to each instance, disk capacity, number of disk snapshots, and internet bandwidth of the instance are also limited. When using ECS Open API, please refer to the latest online restrictions on business rules and resource types. Querying

## Links

In the interface description section, whenever there is a conflict with the type constraints given on the official site concerning optional parameter values or available specifications, the information on the official site will prevail.

## Update History

API version:2014-05-26

Last update:2015-04-21

Release Date	Update	Description
2015-05-14	Modified RAM authorization mode from four-step authorization to five-step authorization	<ul style="list-style-type: none"> <li>- Added the requirement that accountid should be specified for the RAM authorization mode</li> <li>- The original four-step authorization mode is still compatible, but the new five-step authorization is recommended</li> </ul>
2015-04-21	Added the disk resizing function	<ul style="list-style-type: none"> <li>- Added the ResizeDisk interface</li> <li>- Modified error codes of some interfaces</li> </ul>
2015-03-01	Added the Chinese description of error codes	<ul style="list-style-type: none"> <li>- Added the Chinese description of error codes related to interfaces</li> <li>- Added the missing parameters for security group interfaces</li> <li>- Added the security group interface ModifySecurityGroupAttribute</li> </ul>

2015-02-06	Converted into online files, and added VPC APIs, bug fix information, and small adjustments	<ul style="list-style-type: none"> <li>- Added VPC APIs</li> <li>- Added new instance types</li> <li>- Added the input parameter EnableAutoSnapshot for the ModifyDiskAttribute interface, and added the output parameter EnableAutoSnapshot for the DescribeDisks interface</li> <li>- Corrected the measurement units of InternetTX, InternetRX, IntranetTX, and IntranetRX for DescribeInstanceMonitorData</li> </ul>
2014-07-23	Added support for available zones, independent basic cloud disks, and automatic snapshots	<ul style="list-style-type: none"> <li>- Added the input parameter ZoneId (available zone) for some interfaces</li> <li>- Modified output parameters of some query interfaces</li> <li>- Added error codes and detailed error code scenarios of each interface</li> <li>- Updated lots of sample codes</li> <li>- Added one topic to describe the interface actions when an account is in arrears or is locked for security reasons</li> <li>- Added the status chart and status table of independent basic cloud disks</li> </ul>

2014-04-03	Modifications made for global availability	<ul style="list-style-type: none"> <li>- Added and removed some APIs</li> <li>- Added some error codes</li> <li>- The possible error codes of each API are described in detail.</li> <li>- Modified the optional values of some parameters</li> <li>- Supplemented interface descriptions</li> <li>- Used the same RequestId for the same interface</li> <li>- Added the limitations on CreateImage / AddDisk when snapshots were created before and on 2013-7-15</li> <li>- Added the limitations on CreateInstance: If the instance memory is 512 MB, Windows OS is not supported</li> <li>- If the instance memory is 4G or above, a 32-bit OS is not supported</li> <li>- Adjusted the DescribeInstanceMonitorData code example and added the InstanceId and Time parameters</li> </ul>
2013-05-22	Added descriptions of some instance, disk, and snapshot interfaces	Added descriptions of some instance, disk, and snapshot interfaces.
2013-04-10	Added some functions, including resetting instances, displaying snapshot names, and querying specified instances	<ul style="list-style-type: none"> <li>- Added the ResetInstance interface.</li> <li>- Added the SnapshotName attribute for snapshots.</li> <li>- Added the InstanceId</li> </ul>

		parameter of GetMonitorData to query monitoring information of the specified instance. - Added interface description.
2013-01-24	Build 2014-05-26 finalized as Version 1.0	Provided operation interfaces related to instances, disks, images, snapshots, security groups, public IP addresses, regions, and monitoring.

## Summary of APIs

### Instance Related Interfaces

API	Description
CreateInstance	Create an ECS instance
StartInstance	Start a specified instance
StopInstance	Stop a specified instance
RebootInstance	Restart a specified instance
ModifyInstanceAttribute	Modify the attribute information of an instance, such as the password, name and security group
ModifyInstanceVpcAttribute	Modify the VPC attributes of an ECS instance
DescribeInstanceStatus	Acquire in batch the status information of all the instances for the current user and obtain the list of instances
DescribeInstanceAttribute	Query the detailed information of a specified instance
DescribeInstances	Query the detailed information of all instances
DeleteInstance	Release instance resources based on the incoming instance name
JoinSecurityGroup	Add an instance to a specified security group
LeaveSecurityGroup	Remove an instance from a specified security group

## Disk Related Interfaces

API	Description
CreateDisk	Create a disk
DescribeDisks	Query disk information
AttachDisk	Attach a disk
DetachDisk	Detach a disk
ModifyDiskAttribute	Modify disk attributes
DeleteDisk	If a disk device is no longer in use, it can be removed. Note: only independent basic cloud disks can be removed.
ReInitDisk	Re-initialize the disk to its initial status
ResetDisk	Roll back the disk content by using the snapshot of the disk
ReplaceSystemDisk	Replace system disk
ResizeDisk	Resize disk

## Snapshot Related Interfaces

API	Description
CreateSnapshot	Create snapshot of a specified disk storage device
DeleteSnapshot	Delete the snapshot of a specified instance and disk device
DescribeSnapshots	Query the list of all snapshots of a disk device in ECS
ModifyAutoSnapshotPolicy	Set automatic snapshot policy
DescribeAutoSnapshotPolicy	Query automatic snapshot policy

## Image Related Interfaces

API	Description
DescribeImages	Query the list of images available to the user
CreateImage	Create a user-defined image with snapshots. The created image can be used to launch a new ECS instance.
DeleteImage	Delete a specified user-defined image
ModifyImageAttribute	Modify the attributes of an image



CopyImage	Copy image
CancelCopyImage	Cancel copying image
ModifyImageSharePermission	Manage image sharing
DescribeImageSharePermission	Query the list of image sharing accounts

## Network Related Interfaces

API	Description
AllocatePublicIpAddress	Assign an available public network IP address to a given instance
ModifyInstanceNetworkSpec	Modify the bandwidth configuration of an instance
AllocateEipAddress	Apply for an EIP
AssociateEipAddress	Link an EIP to an ECS instance in the same region
DescribeEipAddresses	Query the list of EIPs in the specified region
ModifyEipAddressAttribute	Modify the attributes of a specified EIP. It is currently primarily used to modify the bandwidth speed limit of an EIP
UnassociateEipAddress	Remove the link between an EIP and ECS instance
ReleaseEipAddress	Release an EIP

## Security Group Related Interfaces

API	Description
CreateSecurityGroup	Create a new security group, and configure the firewall for a group of instances by configuring security group firewall rules
AuthorizeSecurityGroup	Set the security group' s external access level
DescribeSecurityGroupAttribute	Query security group details, including security permission control
DescribeSecurityGroups	Query by page the basic information about all user-defined security groups
RevokeSecurityGroup	Revoke the Group' s external access
DeleteSecurityGroup	Delete a specified security group

## VPC Related Interfaces

API	Description
-----	-------------

CreateVpc	Create a VPC in a specified region
DeleteVpc	Delete the specified VPC
DescribeVpcs	Query the list of VPCs in the specified region
ModifyVpcAttribute	Modify the attributes of the specified VPC

## VRouter Related Interfaces

API	Description
DescribeVRouters	Query the list of virtual routers in the specified region. This interface supports querying by page, with 10 lines per page by default
ModifyVRouterAttribute	Modify the attributes of the specified virtual router

## VSwitch Related Interfaces

API	Description
CreateVSwitch	Create a new virtual switch within the specified VPC
DeleteVSwitch	Delete the specified virtual switch
DescribeVSwitches	Query the user' s list of virtual switches in the specified region
ModifyVSwitchAttribute	Modify the attributes of the specified virtual switch

## RouteEntry Related Interfaces

API	Description
CreateRouteEntry	Create new custom route entries
DeleteRouteEntry	Delete the specified custom route
DescribeRouteTables	Query the list of route tables under the user name.This interface supports querying by page, with 10 lines per page by default

## Region Related Interfaces

API	Description
DescribeRegions	Query the list of available regions
DescribeZones	Query available zones

## Monitoring Related Interfaces

API	Description
DescribeInstanceMonitorData	Query by page all the user' s ECS-related monitoring information
DescribeEipMonitorData	Query EIP monitoring information
DescribeDiskMonitorData	Query by page the user' s monitoring information related to the specified disk

## Other Interfaces

API	Description
DescribeInstanceTypes	Query the list of instance types provided by ECS

## Call Method

## Call Methods

ECS API interfaces are called by sending HTTP GET requests to the ECS API server address, with corresponding request parameters included in the request according to the interface instructions. The system returns the processing result according to the request processing status.

1. Request Structure
2. Public Parameters
3. Returned Results
4. Signature Mechanism

## Request Structure

### *Service Address*

The service access URL of ECS API is:ecs.aliyuncs.com

## Communication Protocol

Supports request communication via HTTP or HTTPS channels. HTTPS is recommended because it provides better security.

## Request Methods

Supports sending request via HTTP GET. In this mode, the request parameter has to be included in the request URL.

## Request Parameters

You must specify an action for each request, that is, the 'Action' parameter (such as StartInstance). Every action must include the required public request parameters and the request parameters specified for this action.

## Character Encoding

Requests and returned results are both encoded using the UTF-8 character set.

# Public Parameters

## Public Request Parameters

Public request parameters refer to the request parameters that need to be used by every interface.

Name	Type	Required	Description
Format	String	No	Type of value returned, JSON and XML supported. XML is the default.
Version	String	Yes	The API version, with the date format: YYYY-MM-DD. The current version is 2014-05-26.
AccessKeyId	String	Yes	The key ID Aliyun issued to a user to access services.
Signature	String	Yes	The signature result string. For details on the signature calculation method, please refer to <Signature mechanism>.

SignatureMethod	String	Yes	The signature method. HMAC-SHA1 currently supported.
Timestamp	String	Yes	Request time stamp. The date is represented according to ISO8601, and UTC is required. Format: YYYY-MM-DDThh:mm:ssZ For example, 2014-05-26T12:00:00Z (equivalent to 20:00:00, May 26, 2014 Beijing time).
SignatureVersion	String	Yes	Signature algorithm version. The current version is 1.0.
SignatureNonce	String	Yes	A unique random number, used to prevent replay attacks. The user must use different random numbers for different requests
ResourceOwnerID	String	No	The owner account ID of resources that the API request accessed this time. For details on how to use this parameter, please see < Cross-account access to ECS resources with RAM >, This parameter can only be used in Actions in RAM that can be authorized to ECS resource. Otherwise, access is denied.

## Examples:

```

https://ecs.aliyuncs.com/
?Format=xml
&Version=2014-05-26
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNM1dgI%3D
&SignatureMethod=HMAC-SHA1
&SignatureNonce=15215528852396
&SignatureVersion=1.0
&AccessKeyId=key-test
&Timestamp=2012-06-01T12:00:00Z
...

```

## Public Return Parameters

Each time the user sends a call request to an interface, no matter if it is successful or not, the system will return a unique identification code (RequestId) to the user.

### Examples:

XML Examples:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Result Root Node-->
<Interface Name+Response>
<!--Return Request Tag-->
<RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>
<!--Return Result Data-->
</Interface Name+Response>
```

JSON Examples:

```
{
  "RequestId": "4C467B38-3910-447D-87BC-AC049166F216",
  /* Return Result Data*/
}
```

## Returned Results

After the API service is called, the returned data adopts a uniform format. A returned HTTP status code of 2xx indicates that the call was successful. A returned HTTP status code of 4xx or 5xx indicates that the call was unsuccessful. For successful calls, the supported formats of returned data are XML and JSON. When a request is sent, an external system can pass in parameters to specify the format of returned data. XML is the default format. In this document, examples of results returned are formatted in a way that is easier for users to view. The actual results returned are not formatted with line breaks, indentation, etc.

### Successful Results

XML Examples:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--Result Root Node-->
<Interface Name+Response>
  <!--Return Request Tag-->
  <RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>
  <!--Return Result Data-->
</Interface Name+Response>
```

JSON Examples:

```
{
  "RequestId": "4C467B38-3910-447D-87BC-AC049166F216",
  /* Return Result Data*/
}
```

## Error Results

After an error is encountered in an interface call, no result data will be returned. The caller can pinpoint the causes of error based on the error codes corresponding to each interface and the public error codes that are listed in 2.3.3 below. When an error occurs in a call, the HTTP request will return an HTTP status code of 4xx or 5xx. The returned message body includes the specific error code and error message. It also contains a globally unique request ID: `RequestId` and the ID of the site you accessed with this request: `HostId`. If the caller cannot find the cause of the error, he can contact Aliyun customer service and provide the `HostId` and `RequestId` to help us solve the problem as quickly as possible.

XML Examples:

```
<?xml version="1.0" encoding="UTF-8"?>
<Error>
  <RequestId>8906582E-6722-409A-A6C4-0E7863B733A5</RequestId>
  <HostId>ecs.aliyuncs.com</HostId>
  <Code>UnsupportedOperation</Code>
  <Message>The specified action is not supported.</Message>
</Error>
```

JSON Examples:

```
{
  "RequestId": "8906582E-6722-409A-A6C4-0E7863B733A5",
  "HostId": "ecs.aliyuncs.com",
  "Code": "UnsupportedOperation",
  "Message": "The specified action is not supported."
}
```

## Public Error Codes

Error code	Description	Http status code	Meaning
MissingParameter	The input parameter "Action" that is mandatory for processing this request is not supplied	400	The Action field missing
MissingParameter	The input parameter "AccessKeyId" that is mandatory for processing this request is not supplied	400	The AccessKeyId field missing
MissingParameter	An input parameter "Signature" that is mandatory for processing the request is not supplied.	400	The Signature field missing
MissingParameter	The input parameter "TimeStamp" that is mandatory for processing this request is not supplied	400	The Timestamp field missing
MissingParameter	The input parameter "Version" that is mandatory for processing this request is not supplied	400	The Version field missing
InvalidParameter	The specified parameter "Action or Version" is not valid.	400	Invalid Action value (This API does not exist)
InvalidAccessKeyId.NotFound	The Access Key ID provided does not exist in our records.	400	Invalid AccessKeyId value (This key does not exist)
Forbidden.AccessKeyDisabled	The Access Key is disabled.	403	The AccessKey is disabled
IncompleteSignature	The request signature does not conform to Aliyun standards.	400	Invalid Signature value (incorrect signature result)
InvalidParamater	The specified parameter "SignatureMethod"	400	Invalid SignatureMethod value



	is not valid.		
InvalidParamater	The specified parameter "SignatureVersion" is not valid.	400	Invalid SignatureVersion value
IllegalTimestamp	The input parameter "Timestamp" that is mandatory for processing this request is not supplied.	400	Invalid Timestamp value (The gap between Timestamp and server time exceeds one hour)
SignatureNonceUsed	The request signature nonce has been used.	400	Invalid SignatureNonce (This SignatureNonce value has been used)
InvalidParameter	The specified parameter "Action or Version" is not valid.	400	Invalid Version value
InvalidOwnerId	The specified OwnerId is not valid.	400	Invalid OwnerId value
InvalidOwnerAccount	The specified OwnerAccount is not valid.	400	Invalid OwnerAccount value
InvalidOwner	OwnerId and OwnerAccount can't be used at one API access.	400	The OwnerId and OwnerAccount are used at the same time
Throttling	Request was denied due to request throttling.	400	Access is denied due to the system traffic control
Throttling	Request was denied due to request throttling.	400	The call quota for this key is used up
InvalidAction	Specified action is not valid.	403	This key is not authorized to call this API
UnsupportedHTTPMethod	This http method is not supported.	403	The user adopts unsupported Http method (currently <b>TOP</b> only supports post and get)
ServiceUnavailable	The request has failed due to a temporary failure of the server.	500	The service is unavailable

UnsupportedParameter	The parameter "<parameter name>" is not supported.	400	Invalid parameter is used
InternalServerError	The request processing has failed due to some unknown error, exception or failure.	500	Other causes
MissingParameter	The input parameter OwnerId,OwnerAccount that is mandatory for processing this request is not supplied.	403	No assigned OwnerId when calling this interface
Forbidden.SubUser	The specified action is not available for you	403	Not authorized to call the Order class interface
UnsupportedParameter	The parameter "<parameter name>" is not supported.	400	Not authorized to use this parameter
Forbidden.InstanceNotFound	The specified Instance does not exist, so we cannot get enough information to check permission in RAM.	404	RAM is used to provide cross-account access to resources, but the Instance involved in the access does not exist
Forbidden.DiskNotFound	The specified Disk does not exist, so we cannot get enough information to check permission in RAM.	404	RAM is used to provide cross-account access to resources, but the Disk involved in the access does not exist
Forbidden.SecurityGroupNotFound	The specified SecurityGroup does not exist, so we cannot get enough information to check permission in RAM.	404	RAM is used to provide cross-account access to resources, but the SecurityGroup involved in the access does not exist
Forbidden.SnapshotNotFound	The specified Snapshot does not exist, so we cannot get enough information to check permission in RAM.	404	RAM is used to provide cross-account access to resources, but the Snapshot involved in the access does not exist

Forbidden.ImageNotFound	The specified Image does not exist, so we cannot get enough information to check permission in RAM.	404	RAM is used to provide cross-account access to resources, but the Image involved in the access does not exist
Forbidden.RAM	User not authorized to operate on the specified resource, or this API does not support RAM.	403	RAM is used to provide cross-account access to resources, but users are not authorized to perform the operation this time
Forbidden.NotSupportRAM	This action does not support accessed by RAM mode.	403	RAM is not allowed to be used to access this interface (use of ResourceOwnerAccount not allowed)
Forbidden.RiskControl	This operation is forbidden by Aliyun Risk Control system.	403	Access denied by Aliyun Risk Control system
InsufficientBalance	Your account does not have enough balance.	400	Insufficient balance
IdempotentParameterMismatch	Request uses a client token in a previous request but is not identical to that request.	400	A used ClientToken is used for the request, which is different from the previous request with the used token.
RealNameAuthenticationError	Your account has not passed the real-name authentication yet.	403	Real-name authentication is not performed by the user
InvalidIdempotenceParameter.Mismatch	The specified parameters are different from before	403	Idempotence parameters do not match
LastTokenProcessing	The last token request is processing	403	The previous request is still being processed
InvalidParameter	The specified parameter is not valid	400	Parameter verification failed

# Signature Mechanism

Each time it is accessed by a request, the ECS service will perform sender authentication. Therefore, whether HTTP or HTTPS protocol is used to submit the request, the request must contain signature information. By using the Access Key ID and Access Key Secret, the ECS performs symmetric encryption to authenticate the sender request. The 'Access Key ID' and 'Access Key Secret' are officially issued to visitors by Aliyun (visitors can apply for and manage them on the official Aliyun website). The Access Key ID indicates the identity of the visitor. The Access Key Secret is the secret key used to encrypt the signature string and to verify the signature string on the server. It must be kept strictly confidential and should only be known to Aliyun and the end user.

When a user makes a call to the server, the following method is used to sign the request:

The Canonicalized Query String is constructed using the request parameters

(a) The request parameters are ordered alphabetically by the parameter names (this includes the "public request parameters" and custom parameters for the given request interfaces described in this document, but not the Signature parameter mentioned in "Public Request Parameters").

Note: When a request is submitted using the GET method, these parameters are the parameter section of the request URI (i.e. the section in the URI following "?" and connected by "&").

(b) The name and value of each request parameter are encoded. The names and values must undergo URL encoding using the UTF-8 character set. The URL encoding rules are as follows:

- i. The characters A-Z, a-z, 0-9, "-", "\_", ".", and "~" are not encoded;
- ii. Other characters are encoded in "%XY" format, with XY representing the characters' ASCII code in hexadecimal notation. For example, the English double quotes (") are encoded as %22
- iii. Extended UTF-8 characters are encoded in "%XY%ZA..." format;
- iv. It must be noted that the English space ( ) is encoded as %20, rather than the plus sign (+).

Note: Generally, libraries that support URL encoding (e.g. Java's `java.net.URLEncoder`) are all encoded according to the rules for the "application/x-www-form-urlencoded" MIME-type. If this encoding method is used, replace the plus signs (+) in the encoded strings with %20, the asterisks (\*) with %2A, and change %7E back to the tilde (~) to conform to the encoding rules described above.

(c) Connect the encoded parameter names and values with the English equals sign (=).

(d) Then, order the parameter name and value pairs connected by equals signs in alphabetical order and connect them with the & symbol to produce the Canonicalized Query String.

Follow the rules below to construct the string used for signature calculation by using the Canonicalized Query String constructed in the previous step:

```
StringToSign=
HTTPMethod + "&" +
percentEncode( "/" ) + "&" +
percentEncode(CanonicalizedQueryString)
```

Here, HTTPMethod is the HTTP method used for request submission, e.g. GET.  
percentEncode("/") is the encoded value for the character "/" according to the URL encoding rules described in 1.b, namely "%2F".  
percentEncode(CanonicalizedQueryString) is the encoded string of the Canonicalized Query String constructed in Step 1, produced by following the URL encoding rules described in 1.b.

Use the above to calculate the HMAC value of the signature string, as defined in RFC2104.  
Note: When calculating the signature, the Key is the Access Key Secret held by the user with the "&" character (ASCII:38) added on the end. The SHA1 hashing algorithm is used.

According to Base64 encoding rules, encode the above HMAC value into a string. This gives you the signature value.

Add the obtained signature value to the request parameters as the 'Signature' parameter. This completes the request signing process.

Note: When the obtained signature value is submitted to the ECS server as the final request parameter value, it will undergo URL encoding like other parameters according to RFC3986 rules.

Taking DescribeRegions for example, the request URL before signature is:

```
http://ecs.aliyuncs.com/?TimeStamp=2012-12-26T10:33:56Z&Format=XML&AccessKeyId=testid&Action=DescribeRegions&SignatureMethod=HMAC-SHA1&RegionId=region1&SignatureNonce=NwDAxvLU6tFE0DVb&Version=2014-05-26&SignatureVersion=1.0
```

Thus, the StringToSign is:

```
GET&%2F&AccessKeyId%3Dtestid%26Action%3DDescribeRegions%26Format%3DXML%26RegionId%3Dregion1%26SignatureMethod%3DHMAC-SHA1%26SignatureNonce%3DNwDAxvLU6tFE0DVb%26SignatureVersion%3D1.0%26TimeStamp%3D2012-12-26T10%253A33%253A56Z%26Version%3D2014-05-26
```

If we assume the Access Key ID is "testid", the Access Key Secret is "testsecret", and the Key used for HMAC calculation is "testsecret&". the calculated signature value is:

```
K9fCVP6JrkIpd3rLYKh1pfrrFNo=
```

The signed request URL is (note the added Signature parameter):

```
http://ecs.aliyuncs.com/?TimeStamp=2012-12-26T10%3A33%3A56Z&Format=XML&AccessKeyId=testid&Action=DescribeRegions&SignatureMethod=HMAC-SHA1&RegionId=region1&SignatureNonce=NwDaxvLU6tFE0DVb&Version=2012-09-13&SignatureVersion=1.0&Signature=SDFQNvyH5rtkc9T5Fwo8DOjw5hc%3d
```

For details regarding request signing and submission, please refer to the appendix: [How to Call Interfaces](#).

## Cross-Account Access to ECS Resources with RAM

### Cross-account access to ECS resources with RAM

The ECS instance you created is a resource you own. By default, you have full access to your own resources, and can perform any operations on resources using all the APIs listed in this file. You do not have access to resources under other users' accounts. This means that any of your operations on other users' resources using the APIs are denied.

The AliCloud RAM (Resource Access Management) service allows users to perform cross-account authorization on and have cross-account access to ECS instance resources. Please make sure that you read the RAM product and API documentations carefully before getting started with cross-account access to ECS resources with RAM.

If you do not need to perform cross-account authorization and have direct cross-account access to ECS instance resources, you can skip this section and ignore all the descriptions related to the ResourceOwnerAccount parameter in the "Interface Description" section. Skipping these sections does not affect your understanding and use of the remaining parts in the file.

1. How to have cross-account access to ECS resources
2. Actions in RAM that can be authorized to ECS resources
3. Authentication rules for cross-account access using ECS APIs
4. Examples of cross-account access to ECS resources

# How to Have Cross-Account Access to ECS Resources

If you need to use ECS APIs to access others' resources, please make sure the other party has authorized you the privilege for operations on the resources via RAM. To learn about how to implement the authorization, please refer to RAM product documentation and API documentation.

When you access others' resources via ECS APIs, you need to specify one more public parameter when you access your own resources: 'ResourceOwnerAccount' to indicate whose resources you want to access. E.g.:

```
https://ecs.aliyuncs.com/?Action=StartInstance
&InstanceId=I-instance1
&ResourceOwnerAccount=user_X@aliyun.com
&AccessKeyId=user_Y_keyid
&<Other Public Request Parameters>
```

The example indicates that user\_Y initiates API access to perform the StartInstance operation on the ECS instance I-instance1 of user\_X. If the 'ResourceOwnerAccount' parameter is not used in the request to specify the resource owner, or the specified owner is inconsistent with the actual resource owner, or user\_X@aliyun.com does not assign the StartInstance operation permission for this instance to the caller in advance, the API call is denied for the reason that the caller is unauthorized to access the specified resource.

## Actions in RAM that can be authorized to ECS resource

In RAM, the following actions can be authorized to an ECS resource.

- AssociateEipAddress
- AllocatePublicIpAddress
- AllocateEipAddress
- AttachDisk
- AuthorizeSecurityGroup
- CreateDisk
- CreateImage
- CreateInstance
- CreateRouteEntry
- CreateSecurityGroup

- CreateSnapshot
- CreateVpc
- CreateVSwitch
- DeleteDisk
- DeleteImage
- DeleteInstance
- DeleteRouteEntry
- DeleteSecurityGroup
- DeleteSnapshot
- DeleteVpc
- DeleteVSwitch
- DescribeAutoSnapshotPolicy
- DescribeEipAddresses
- DescribeEipMonitorData
- DescribeDisks
- DescribeImages
- DescribeInstanceAttribute
- DescribeInstanceMonitorData
- DescribeInstances
- DescribeInstanceStatus
- DescribeInstanceTypes
- DescribeRegions
- DescribeRouteTables
- DescribeSecurityGroupAttribute
- DescribeSecurityGroups
- DescribeSnapshots
- DescribeVpcs
- DescribeVRouter
- DescribeVSwitches
- DescribeZones
- DetachDisk
- JoinSecurityGroup
- LeaveSecurityGroup
- ModifyAutoSnapshotPolicy
- ModifyEipAttribute
- ModifyDiskAttribute
- ModifyInstanceAttribute
- ModifyInstanceVpcAttribute
- ModifyInstanceNetworkSpec
- ModifyVpcAttribute
- ModifyVRouterAttribute
- ModifyVSwitchAttribute
- RebootInstance



- ReplaceSystemDisk
- ReInitDisk
- ResetDisk
- RevokeSecurityGroup
- UnAssociateEipAddress
- StartInstance
- StopInstance

## Authentication rules for cross-account access using ECS APIs

When the user requests cross-account access to ECS resources using ECS Open APIs, ECS will send a request to RAM in the background to check access levels, to make sure that the resource owner indeed grants related access to relevant resources to the caller.

Each different ECS API check the access of the requested resources according to the involved resources and the definition of API. Specifically, the authentication rules for each API are displayed as in the following table.

Action	Authentication Rules
AllocatePublicIpAddress	acs:ecs: \$regionid:\$accountid:instance/\$instanceid
AttachDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskid acs:ecs:\$regionid:\$accountid:instance/\$instanceid
AuthorizeSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid [and acs:ecs:\$regionid:\$accountid:securitygroup/\$sourcegroupid (if SourceGroupId is specified)]
CreateDisk	acs:ecs:\$regionid:\$accountid:disk/* [and acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotid (if SnapshotId is specified)]
CreateImage	acs:ecs:\$regionid:\$accountid:image/* acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotid
CreateInstance	acs:ecs:\$regionid:\$accountid:instance/* acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid acs:ecs:\$regionid:\$accountid:image/\$imageid [and acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotid (if DataDisk.n.SnapshotId is specified)]
CreateSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/*

CreateSnapshot	acs:ecs:\$regionid:\$accountid:disk/\$diskid acs:ecs:\$regionid:\$accountid:snapshot/*
DeleteDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskid
DeleteImage	acs:ecs:\$regionid:\$accountid:image/\$imageid
DeleteInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
DeleteSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid
DeleteSnapshot	acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotid
DescribeAutoSnapshotPolicy	acs:ecs:*:\$accountid:snapshot/*
DescribeDisks	acs:ecs:\$regionid:\$accountid:disk/*
DescribeImages	acs:ecs:\$regionid:\$accountid:image/*
DescribeInstanceAttribute	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
DescribeInstanceMonitorData	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
DescribeInstanceStatus	acs:ecs:\$regionid:\$accountid:instance/*
DescribeInstanceTypes	acs:ecs:*:\$accountid:*
DescribeRegions	acs:ecs:*:\$accountid:*
DescribeSecurityGroupAttribute	acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid
DescribeSecurityGroups	acs:ecs:\$regionid:\$accountid:securitygroup/*
DescribeSnapshots	acs:ecs:\$regionid:\$accountid:snapshot/*
DescribeZones	acs:ecs:*:\$accountid:*
DetachDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskid acs:ecs:\$regionid:\$accountid:instance/\$instanceid
JoinSecurityGroup	acs:ecs:\$regionid:\$accountid:instance/\$instanceid acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid
LeaveSecurityGroup	acs:ecs:\$regionid:\$accountid:instance/\$instanceid acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid
ModifyAutoSnapshotPolicy	acs:ecs:*:\$accountid:snapshot/*
ModifyDiskAttribute	acs:ecs:\$regionid:\$accountid:disk/\$diskid
ModifyInstanceAttribute	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
ModifyInstanceNetworkSpec	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
RebootInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
ReplaceSystemDisk	acs:ecs:\$regionid:\$accountid:instance/\$instanceid [and acs:ecs:\$regionid:\$accountid:image/\$imageid (if a user-defined image or an image market image is used)]

ReInitDisk	acs:ecs:\$regionid:\$accountid:disk/\$diskid
ResetDisk	acs:ecs:\$regionid:\$accountid:snapshot/\$snapshotid acs:ecs:\$regionid:\$accountid:disk/\$diskid
RevokeSecurityGroup	acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid [and acs:ecs:\$regionid:\$accountid:securitygroup/\$sourcegroupid (if sourcegroupid is specified)]
StartInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
StopInstance	acs:ecs:\$regionid:\$accountid:instance/\$instanceid
DescribeInstances	acs:ecs:\$regionid:\$accountid:instance/*
CreateVpc	acs:ecs:\$regionid:\$accountid:vpc/*
ModifyVpcAttribute	acs:ecs:\$regionid:\$accountid:vpc/\$vpcid
DescribeVRouters	acs:ecs:\$regionid:\$accountid:vrouter/*
CreateVSwitch	acs:ecs:\$regionid:\$accountid:vswitch/*
CreateRouteTable	acs:ecs:\$regionid:\$accountid:routetable/*
CreateRouteEntry	acs:ecs:\$regionid:\$accountid:routetable/\$routetableid
AllocateEipAddress	acs:ecs:\$regionid:\$accountid:eip/*
AssociateEipAddress	acs:ecs:\$regionid:\$accountid:eip/\$allocationid acs:ecs:\$regionid:\$accountid:instance/\$instanceid
ReleaseEipAddress	acs:ecs:\$regionid:\$accountid:eip/\$allocationid
DescribeVpcs	acs:ecs:\$regionid:\$accountid:vpc/*
DeleteVpc	acs:ecs:\$regionid:\$accountid:vpc/\$vpcid
ModifyVRouterAttribute	acs:ecs:\$regionid:\$accountid:vrouter/\$vrouterid
DescribeVSwitches	acs:ecs:\$regionid:\$accountid:vswitch/*
DeleteVSwitch	acs:ecs:\$regionid:\$accountid:vswitch/\$vswitchid
DescribeRouteTables	acs:ecs:\$regionid:\$accountid:routetable/*
DeleteRouteEntry	acs:ecs:\$regionid:\$accountid:routetable/\$routetableid
DescribeEipAddresses	acs:ecs:\$regionid:\$accountid:eip/*
UnassociateEipAddresses	acs:ecs:\$regionid:\$accountid:eip/\$eipid acs:ecs:\$regionid:\$accountid:instance/\$instanceid
ModifySecurityGroupAttribute	acs:ecs:\$regionid:\$accountid:securitygroup/\$securitygroupid
DescribeEipMonitorData	acs:ecs:\$regionid:\$accountid:eip/\$allocationid
ModifyVSwitchAttribute	acs:ecs:\$regionid:\$accountid:vswitch/\$vswitchid
ModifyInstanceVpcAttribute	acs:ecs:\$regionid:\$accountid:instance/\$instanceid

ModifyEipAddressAttribute	acs:ecs:\$regionid:\$accountid:eip/\$allocationid
DescribeDiskMonitorData	acs:ecs:\$regionid:\$accountid:disk/\$diskid

## Examples of Cross-Account Access to ECS Resources

Assume that the user `xiaoming@aliyun.com` has created an ECS instance with InstanceId of 'I-instance1'. Now `xiaoming@aliyun.com` wants to authorize `beibei@aliyun.com` to manage this instance, and allows `beibei@aliyun.com` to call ECS APIs to perform only the `RebootInstance` (restarting the instance), `StopInstance` (stopping the instance), and `DescribeInstanceAttribute` (querying the instance information) operations on this instance. To implement the above authorization, `xiaoming` needs to do the following:

Add Beibei to Xiaoming's user space in RAM. Here, Xiaoming needs to call the `AddUser` interface of RAM. Parameter 'UserName=ALIYUN\$beibei@aliyun.com';

```
https://ram.aliyuncs.com/?Action=AddUser
&UserName=ALIYUN$beibei@aliyun.com
&<Other Public Request Parameters>
```

Define the authorization 'Policy'. Policy is a `JsonString`. Its json structure should contain the following elements:

```
{
  "Version": "1",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": ["ecs:RebootInstance", "ecs:StopInstance", "ecs:DescribeInstanceAttribute"],
      "Resource": ["acs:ecs*:instance/I-instance1"]
    }
  ]
}
```

Call the 'PutPolicy' interface of RAM, and set the Policy for Beibei. The value 'web\_front\_server\_policy' of the parameter 'PolicyName' is the policy name specified by `xiaoming`.

```
https://ram.aliyuncs.com/?Action=PutUserPolicy
&UserName=ALIYUN$beibei@aliyun.com
&PolicyName=web_front_server_policy
```

```
&PolicyDocument=$policy defined in step 2
&<Other Public Request Parameters>
```

After the policy is set, Beibei has been assigned the permissions to use ECS APIs `RebootInstance`, `StopInstance`, and `DescribeInstanceAttribute` to access Xiaoming's ECS instance `I-instance1`.

Beibei calls an ECS API, for example, `RebootInstance`, to operate on the ECS instance. During the call, the parameter `ResourceOwnerAccount` should be used to specify that the API is called to operate xiaoming's resource.

```
https://ecs.aliyuncs.com/?Action=RebootInstance
&InstanceId=I-instance1
&ResourceOwnerAccount=xiaoming@aliyun.com
&<Other Public Request Parameters>
```

When Xiaoming wants to cancel Beibei's permissions, Xiaoming needs to call `DeleteUserPolicy` of RAM to delete the policy.

```
https://ram.aliyuncs.com/?Action=DeleteUserPolicy
&UserName=ALIYUN$beibei@aliyun.com
&PolicyName=web_front_server_policy
&<Other Public Request Parameters>
```

If Beibei tries to call an ECS API to access the ECS instance, the request is denied, and the following response is returned:

```
{
  "RequestId": "7463B73D-35CC-4D19-A010-6B8D65D242EF",
  "HostId": "ecs.aliyuncs.com",
  "Code": "Forbidden",
  "Message": " User not authorized to operate on the specified resource."
}
```

## Instance Related Interfaces

### Creating an instance

## Description

Create an elastic compute instance according to input parameters.

When creating an instance, you must select an image to determine the system disk configuration of the new instance. The image contains OS and application software configuration. After an instance is created based on an image, the system disk of the instance is a clone of that image.

When you create an instance, you must specify the security group of the instance. The security group must be created in advance by using the interface for creating security groups . You can specify the security group when creating the instance or change the security group of the instance by using the interface for changing instance properties. 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, firewall permissions of a security group can be set through security group authorization (by using the interface for granting security group permissions). The maximum number of instances in one security group cannot exceed 1,000. If the security group you specified exceeds this limit, a failure prompt is displayed.

During instance creation, if `InternetChargeType` is set to `PayByBandwidth`, the value of `InternetMaxBandwidthOut` is the selected fixed bandwidth value; if `InternetChargeType` is set to `PayByTraffic`, `InternetMaxBandwidthOut` specifies the upper limit of the bandwidth value, and billing is based on the actual network traffic. When setting `InternetChargeType` and `InternetMaxBandwidthOut`, please calculate the possible bandwidth expenses carefully.

The value of `InternetMaxBandwidthIn` is unrelated to billing in all circumstances. Incoming data traffic of the instance is free of charge.

When you create an instance, you can choose whether to optimize the instance for IO (`IoOptimized`).

During instance creation, the system allocates a system disk with an appropriate size for the instance based on the image specified by the user. The system disk category can also be specified: Basic cloud disk (`cloud`), ephemeral disk (`ephemeral`), and ephemeral SSD (`ephemeral_ssd`) (if you are authorized to create ephemeral disks or ephemeral SSDs; by default, new users are not authorized to create ephemeral disks or ephemeral SSDs).

When the instance is selected as the IO optimization instance, the system disk can only select the efficient cloud disk (`cloud_efficiency`) and SSD cloud disk (`cloud_ssd`)

ECS does not allow users to create or add a ephemeral disk or an ephemeral SSD separately. Therefore, the ephemeral disk and ephemeral SSD must be specified during instance creation. For disk category and size restrictions for different instance type, see [Instance Type Table](#).

A single basic cloud disk (cloud) cannot exceed 2,000 GB. A single cloud efficient (cloud\_efficiency) cannot exceed 32TB ( 32768GB ) . A single SSD cloud (cloud\_ssd) cannot exceed 32TB ( 32768GB ) .

By default, when you launch a new instance, the system disk is a basic cloud disk. Its Portable attribute is "false" , meaning that it does not support detach and attach operations. The system disk is released with the release of the instance. Therefore, the DeleteWithInstance attribute of the system disk is True.

By default, the data disk that is created with an instance is a basic cloud disk. Its Portable attribute is "true" , meaning that it supports detach and attach operations. If the data disk is released with the release of the instance, the default value of the DeleteWithInstance attribute is True; otherwise, the default value of the DeleteWithInstance attribute is False.

The Portable attribute of a ephemeral disk (ephemeral) or an ephemeral SSD (ephemeral\_ssd) that is created with an instance is "false" , meaning that it does not support attach and detach operations. The ephemeral disk and ephemeral SSD are released with release of the instance. Therefore, the DeleteWithInstance attribute is True.

A maximum of four data disks can be added to one instance. The total ephemeral disk size for an instance (excluding the system disk) cannot exceed 2 TB (2,048 GB). The total ephemeral SSD capacity of an instance (excluding the system disk) cannot exceed 1 TB (1,024 GB).

The ephemeral disk and the ephemeral SSD cannot exist on the same instance. However, the ephemeral disk and the basic cloud disk can exist on the same instance, and the ephemeral SSD and the basic cloud disk can exist on the same instance.

Once the instance disk type is set to ephemeral disk or ephemeral SSD, the instance type cannot be changed after the instance is created.

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

When the system disk is a cloud disk, the data disk cannot be "ephemeral" or "ephemeral\_ssd" .

The instance type can be set to VPC only when the instance is launched. The VPC instances only belong to one VSwitch.

If VSwitchId is specified for creating an instance, SecurityGroupId and VSwitchId must belong to the same VPC.

If both VSwitchId and PrivateIpAddress are specified, PrivateIpAddress must be within CidrBlock of the virtual switch.

PrivateIpAddress depends on VSwitchId and cannot be specified separately.

If the instance payment type is PrePaid, prepaid coupons are used by default (except 0% discount accounts).

When the creation is complete, the instance stops.

In the Alibaba Cloud CLI and SDK to use the API, some have a "." in the reference parameters and you need to remove it, including the use of SystemDisk.Category, SystemDisk.Size, SystemDisk.Description, DataDisk.n.Size, DataDisk.n.Category, DataDisk.n.SnapshotId, DataDisk.n.DiskName, DataDisk.n.Description, DataDisk.n.Device, DataDisk.n.DeleteWithInstance. Such as: in the Alibaba cloud CLI and SDK using SystemDiskCategory said SystemDisk.Category into parameters.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter, with a value: CreateInstance
RegionId	String	Yes	The instance' s Region ID
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.
ImageId	String	Yes	ID of an image file, indicating an image selected when an instance is started
InstanceType	String	Yes	Type of the instance.



			For values, see Instance Type Table. You can also obtain the latest instance type table by invoking the Querying Instance Type Table interface.
SecurityGroupId	String	Yes	ID of the security group to which a newly created instance belongs. Mutual access is allowed between instances in one security group.
InstanceName	String	No	Display name of the instance, which is a string of 2 to 128 Chinese or English characters. It must begin with an uppercase/lowercase letter or a Chinese character and can contain numerals, ".", "_", or "-". The instance name is displayed on the AliCloud console. If this parameter is not specified, the default value is InstanceId of the instance. It cannot begin with http:// or https://.
Description	String	No	Description of the instance, which is a string of 2 to 256 characters. The instance description is displayed on Alibaba Cloud console. If this parameter is not specified, it is null. The default value is null. It cannot begin with http:// or https://.
InternetChargeType	String	No	Internet charge type, which can be PayByTraffic or PayByBandwidth. Optional values: - PayByBandwidth

			<p>- PayByTraffic</p> <p>If this parameter is not specified, the default value is PayByBandwidth.</p>
InternetMaxBandwidthIn	String	No	<p>Maximum incoming bandwidth from the public network, measured in Mbps (Mega bit per second). Value range:[1, 200]</p> <p>If this parameter is not specified, API automatically sets it to 200 Mbps.</p>
InternetMaxBandwidthOut	String	No	<p>Maximum outgoing bandwidth to the public network, measured in Mbps (Mega bit per second). Value range:</p> <p>PayByBandwidth: [0, 100]. If this parameter is not specified, API automatically sets it to 0 Mbps.</p> <p>PayByTraffic: [1, 100]. If this parameter is not specified, an error is returned.</p> <p>If necessary, you can request to change the bandwidth range to 1 - 200 Mbps in the work order system.</p>
HostName	String	No	<p>Host name of the ECS, which is a string of at least two characters.</p> <p>"hostname" cannot start or end with "." or "-". In addition, two or more consecutive "." or "-" symbols are not allowed. On Windows, the host name can contain a maximum of 15 characters, which can be a combination of uppercase/lowercase letters, numerals, and "-". The host name cannot contain dots</p>

			( "." ) or contain only numeric characters. On other OSs such as Linux, the host name can contain a maximum of 30 characters, which can be segments separated by dots ( "." ), where each segment can contain uppercase/lowercase letters, numerals, or "-" .
Password	String	No	Password to an instance is a string of 8 to 30 characters. It must contain uppercase/lowercase letters and numerals, but cannot contain special symbols. If the Password parameter is passed, use HTTPS to invoke the API to avoid password leakage.
IoOptimized	String	No	I/O optimized. Optional values are: <ul style="list-style-type: none"> <li>- none: none I/O Optimized</li> <li>- optimized: I/O Optimized</li> </ul> Default value:none
SystemDisk.Category	String	No	Category of the system disk Optional values are: <ul style="list-style-type: none"> <li>- Cloud - basic cloud disk</li> <li>- cloud_efficiency - ultra cloud disk</li> <li>- cloud_ssd - cloud SSD</li> <li>- ephemeral_ssd - ephemeral</li> </ul>

			SSD Default value:cloud
SystemDisk.Size	integer	No	<p>Size of the system disk, in GB, values range:</p> <ul style="list-style-type: none"> <li>- Cloud - 40 ~ 500</li> <li>- cloud_efficiency - 40 ~ 500</li> <li>- cloud_ssd - 40 ~ 500</li> <li>- ephemeral_ssd - 40 ~ 500</li> </ul> <p>Default value:size=max{40 , ImageID}. The value should be equal to or greater than max{40 , ImageID}.</p>
SystemDisk.DiskName	String	No	<p>Name of a system disk, which is a string of 2 to 128 Chinese or English characters. It can contain numerals, "_", or "-". It must begin with an uppercase/lowercase letter or a Chinese character. If this parameter is not specified, it is null. The default value is null. The disk name is displayed on Alibaba Cloud console.It cannot begin with http:// or https://.</p>
SystemDisk.Description	String	No	<p>Description of a system disk, which is a string of 2 to 256 characters. The instance description is displayed on the AliCloud console. If this parameter is not specified, it is null by default. It cannot begin with http:// or https://.</p>
DataDisk.n.Size	Integer	No	Size of the n data disk,

			<p>n starts from 1. In GB, values range:</p> <ul style="list-style-type: none"> <li>- Cloud - 5 ~ 2000</li> <li>- cloud_efficiency - 20 ~ 2048</li> <li>- cloud_ssd - 20 ~ 2048</li> <li>- ephemeral_ssd - 5 ~ 800</li> </ul> <p>The value should be equal to or greater than the specific snapshot.</p>
DataDisk.n.Category	String	No	<p>Category of the data disk n</p> <p>Optional values are:</p> <ul style="list-style-type: none"> <li>- Cloud - basic cloud disk</li> <li>- cloud_efficiency - ultra cloud disk</li> <li>- cloud_ssd - cloud SSD</li> <li>- ephemeral_ssd - ephemeral SSD</li> </ul> <p>Default value:cloud</p>
DataDisk.n.SnapshotId	String	No	<p>Snapshot is used to create the data disk</p> <p>After this parameter is specified, DataDisk.n.Size is ignored, and the size of the newly created disk is the size of the specified snapshot. If the snapshot was created on or before July 15, 2013, this invocation is denied, and InvalidSnapshot.TooOld will be returned in the response</p>

DataDisk.n.DiskName	String	No	Name of a data disk, which is a string of 2 to 128 Chinese or English characters. If this parameter is not specified, it is null by default. The data disk name must begin with an uppercase/lowercase letter or a Chinese character, and can contain numerals, "_", or "-". The data disk name is displayed on the AliCloud console. It cannot begin with http:// or https://.
DataDisk.n.Description	String	No	Description of a data disk, which is a string of 2 to 256 characters. If this parameter is not specified, it is null by default. The disk description is displayed on the AliCloud console. It cannot begin with http:// or https://.
DataDisk.n.Device	String	No	The value "null" indicates that the value is allocated by default, starting from /dev/xvdb to /dev/xvdz. Default value: null
DataDisk.n.DeleteWithInstance	String	No	Whether a data disk is released with the instance. <ul style="list-style-type: none"> <li>- "true" indicates that the disk is released with the instance</li> <li>- "false" indicates that the disk is not released with the instance</li> </ul> Default value: true

			This parameter is valid only for an independent basic cloud disk, or when DataDisk.n.Category=cloud. Otherwise, an error is returned.
VSwitchId	String	No	When launching an instance in VPC, the virtual switch ID must be specified.
PrivateIpAddress		No	Private IP address of the instance, which cannot be specified separately.
InstanceChargeType	String	No	<p>Payment methods.</p> <ul style="list-style-type: none"> <li>- PrePaid: prepayment, that is, monthly/yearly subscription. Users who select the type of payment method must confirm the balance payment / credit payment of their accounts; otherwise it will return "invalid payment method" .</li> <li>- PostPaid: post-paid, that is, pay-as-you-go.</li> </ul> <p>The default is PostPaid.</p>

Period	Integer	No	<p>The time that you have bought the resource, in month. Only valid when InstanceChargeType is set as PrePaid.</p> <p>Value range:</p> <ul style="list-style-type: none"> <li>- 1 - 9</li> <li>- 12</li> <li>- 24</li> <li>- 36</li> </ul>
AutoRenew	String	No	<p>Whether automatic renewal is supported. Only valid when InstanceChargeType is set PrePaid.</p> <p>Value range</p> <ul style="list-style-type: none"> <li>- True , indicates to automatically renew</li> <li>- False , indicates not to automatically renew</li> </ul> <p>Default value: False.</p>
AutoRenewPeriod	Integer	No	<p>The period of each automatic renewal. Required when AutoRenew is True.</p> <ul style="list-style-type: none"> <li>- 1</li> <li>- 2</li> <li>- 3</li> <li>- 6</li> <li>- 12</li> </ul>
ClientToken	String	No	<p>Used to ensure 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.</p> <p>For details, refer to the appendix: How to Ensure Idempotence.</p>



## Return Parameters

Name	Type	Description
InstanceId	String	ID of the instance, which is generated by the system and is globally unique. It is a unique identifier of the instance

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId value missing (or the user might not be authorized to use the region)
InvalidInstanceType.ValueUnauthorized	The specified InstanceType is not authorized.	400	The specified InstanceType is not authorized
InvalidZoneId.NotFound	The ZoneId provided does not exist in our records.	404	The specified ZoneId does not exist (or the user might not be authorized to use the zone)
MissingParameter	The input parameter "ImageId" that is mandatory for processing this request is not supplied.	400	ImageId value missing
InvalidInstanceType.ValueNotSupported	The specified InstanceType beyond the permitted range.	400	The specified InstanceType is invalid (beyond the permitted range)
MissingParameter	The input parameter "InstanceType" that is mandatory for processing this request is not supplied.	400	InstanceType value missing
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist (or

			the user might not be authorized to use the security group)
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	SecurityGroupId value missing
InvalidDescription.Malformed	The specified parameter "Description" is not valid.	400	The format of the specified Description is invalid
InvalidInternetChargeType.ValueNotSupported	The specified InternetChargeType is not valid.	400	The specified InternetChargeType does not exist
InvalidParameter	The specified parameter "InternetMaxBandwidthIn" is not valid.	400	The specified InternetMaxBandwidthIn is invalid (not a numeral or beyond the permitted range)
InvalidParameter	The specified parameter "InternetMaxBandwidthOut" is not valid.	400	The specified InternetMaxBandwidthOut is invalid (not a numeral or beyond the permitted range)
InvalidHostName.Malformed	The specified parameter "HostName" is not valid.	400	The format of the specified HostName is invalid
InvalidPassword.Malformed	The specified parameter "Password" is not valid.	400	The format of the specified Password is invalid
InvalidSystemDisk.Category.ValueNotSupported	The specified parameter "SystemDisk.Category" is not valid.	400	The specified SystemDisk.Category 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
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

InvalidParameter	The specified parameter "DataDisk.n.Size" is not valid.	400	The specified DataDisk.n.Size is invalid (not a numeral)
InvalidDataDiskSize.ValueNotSupported	The specified DataDisk.n.Size beyond the permitted range, or the capacity of the snapshot exceeds the size limit of the specified disk category.	400	The specified DataDisk.n.Size is invalid (beyond the permitted range)
InvalidDataDiskCategory.ValueNotSupported	The specified parameter "DataDisk.n.Category" is not valid.	400	The specified DataDisk.n.Category is invalid
InvalidDataDiskSnapshotId.NotFound	The specified parameter "DataDisk.n.SnapshotId" is not valid.	404	The specified DataDisk.n.SnapshotId is not found
InvalidDataDevice.Malformed	The specified parameter "DataDisk.n.Device" is not valid.	400	The specified DataDisk.n.Device is invalid
OperationDenied	The specified parameter "VlanId" is not valid or vlan does not have enough IP addresses.	400	The specified VlanId is invalid
InvalidParameter.Conflict	The specified image does not support the specified instance type.	400	The specified image is not allowed to be used with the specified instance type
InvalidSnapshotId.BasedSnapshotTooOld	The specified snapshot is created before 2013-07-15.	400	The specified snapshot was created before July 15, 2013
QuotaExceed.AfterpayInstance	Living afterpay instances quota exceeded.	400	The number of PayByTraffic instances reaches the upper limit
ImageNotSubscribed	The specified image is not subscribed.	403	The specified image on the image market is not subscribed
OperationDenied	The specified Image is disabled or is deleted.	403	The specified image is unavailable or does not exist

InvalidSystemDisk.Category.ValueUnauthorized	The disk category is not authorized.	403	The disk category is not authorized
InvalidParameter.Mismatch	The data disk must be cloud disk when system disk category is cloud.	403	The data disk must be a basic cloud disk when the system disk category is "cloud"
InvalidSnapshotId.NotReady	The specified snapshot has not completed yet.	403	The snapshot has not been completed yet
OperationDenied	The specified snapshot is not allowed to create a disk.	403	The snapshot of a specified disk is not allowed to create a disk, or the snapshot is not allowed to create a disk
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
InvalidDevice.InUse	The specified device has been occupied.	403	The specified device is in used
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 including exact the same product code has been removed.	403	The specified image on the image market is not available, or the image on the image market corresponding to the product code is not available
InvalidClusterId.NotFound	The ClusterId provided does not exist in our records.	404	The specified ClusterId does not exist
OperationDenied	The creation of Instance to the specified Zone is not allowed.	403	An instance cannot be created for the specified zone, or the specified zone and region mismatch
CategoryNotSupported	The specified zone does not offer the specified disk	403	A disk of a specified category is not allowed to be

	category.		created in the specified zone
OperationDenied	The specified Zone or cluster does not offer the specified disk category or the specified zone and cluster do not match.	403	The specified zone or cluster does not support the requested disk category, or the specified zone and cluster do not match
InvalidInstanceName.Malformed	The specified parameter "InstanceName" is not valid.	400	The specified InstanceName is invalid
InvalidInstanceDescription.Malformed	The specified parameter "Description" is not valid.	400	The specified instance description is invalid
OperationDenied	The specified Image is disabled or is deleted.	404	The specified image cannot be found
OperationDenied	The resource is out of usage.	403	The zone or cluster resources are running out
InternalError	The request processing has failed due to some unknown error.	500	No zone is available for the user due to incorrect resource pool configuration or no resources
OperationDenied	The specified region is in resource control, please try later.	403	Selling of PayByTraffic instances are stopped for now in the specified region
InvalidParameter.Conflict	The specified region and cluster do not match.	400	The specified region and cluster do not match
SecurityGroupInstanceLimitExceed	Exceeding the allowed number of instances in a security group.	403	The number of instances in a security group has reached the upper limit
RegionUnauthorized	There is no permission to create instances in the specified region.	403	The user is not authorized to use the region
CategoryNotSupported	The specified Zone or cluster does not offer the requested disk category.	403	The specified zone or cluster does not support the requested disk category

InvalidSnapshotId.NotFoundDataDiskSnapshot	The specified snapshot is a system disk snapshot.	403	A data disk cannot be created from the system disk snapshot
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 (beyond the permitted range), or the specified disk category is not authorized
CategoryNotSupported	The specified cluster does not offer the specified disk category.	403	The specified cluster does not support the specified disk category
InvalidDiskCategory.Mismatch	The specified disk categories' combination is not supported..	403	The combination of specified disk categories is not supported
QuotaExceed.PortableCloudDisk	The quota of portable cloud disk exceeds.	403	The number of basic cloud disks that can be attached to an instance has reached the upper limit (which is 4)
DeleteWithInstance.Conflict	The specified disk is not a portable disk and cannot be set to DeleteWithInstance attribute.	403	The specified disk does not support attach and detach operations
InstanceDiskNumLimitExceed	The number of specified disk in an instance exceeds.	403	The number of basic cloud disks mounted to one ECS is more than 4
IoOptimized.NotSupported	The specified image does not support IoOptimized Instance.	403	The specified image must support the IoOptimized instance
OperationDenied	Another Instance has been created	403	The number of created ECSs is more than 1 for one synchronization request
IoOptimized.NotSupported	The specified instance type does not support IoOptimized instance	403	The image does not support the IoOptimized instance
InvalidDiskCategory.NotSupported	The specified disk category does not support the	403	The specified disk category does not support the

	specified instance type.		specified instance type
OperationDenied	The specified zone does not support creating IoOptimized instance.	403	The IoOptimized instance cannot be created in the selected zone
InstanceDiskCategoryLimitExceed	The specified DataDisk.n.Size beyond the permitted range, or the capacity of the snapshot exceeds the size limit of the specified disk category.	400	The specified DataDisk.n.Size is invalid (beyond the permitted range)
DependencyViolation.Image	The specified imageid is not supported to create iooptimized instance	400	The IoOptimized instance cannot be created for the specified image ID
InstanceTypeNotSupported	The specified zone does not offer the specified instancetype.	403	The specified instance type cannot be created in the available zone

## 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
&<Public Request Parameters>
```

### Return Example

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"
}
```

## Starting an instance

### *Description*

Start a specified instance.

- After the interface is invoked successfully, the specified instance will be in the Starting state.
- This interface can be invoked only when the instance is in the Stopped state.
- If 'OperationLocks' of the instance indicates "LockReason": "security", the instance cannot be started.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:StartInstance
InstanceId	String	Yes	ID of the instance to be started

### *Return Parameters*

All are public return parameters. For details, see [Public Return Parameters](#)

### *Error Code*

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is	400	InstanceId value missing



	mandatory for processing this request is not supplied.		
IncorrectInstanceStatus	The current state of the instance does not support this operation.	403	The current state of the instance does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The 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
InternalError	The request processing has failed due to some unknown error.	500	Internal error
InstanceNotReady	The specified instance is not ready for use	403	The specified instance is being created
DiskError	IncorrectDiskStatus	403	Abnormal disk status

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Stopping an instance

### Description

Stop a specified instance.

- This operation is allowed only when the instance is in Running state.
- After the interface is invoked successfully, the specified instance will be in the Stopping state. The system is in the Stopped state in the background after the instance is stopped successfully.
- An instance can be stopped forcefully. The force stop operation is same as power failure. Data in the instance operation system that is not written to the disk may be lost.
- If 'OperationLocks' of the instance indicates "LockReason": "security", the instance cannot be stopped.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:StopInstance
InstanceId	String	Yes	The specified instance ID
ForceStop	String	No	Whether to force shutdown upon device restart. Value: <ul style="list-style-type: none"> <li>- true</li> <li>- false</li> </ul> The default value is "false". If it is set to "false", the system is shut down normally; if it is set to "true", the system is forced to shut down.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidParameter	The specified parameter "ForceStop" is not valid.	400	The specified ForceStop is invalid (not in the enumerated range)
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because the instance is locked for security reasons

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Restarting an instance

### Description

Restart a specified instance

- This operation is allowed only when the instance is in Running state.
- After the interface is invoked successfully, the specified instance will be in the Starting state.
- An instance can be stopped forcefully. The force stop operation is same as power failure. Data in the instance operation system that is not written to the disk may be lost.
- If 'OperationLocks' of the instance indicates "LockReason": "security", the instance cannot be restarted.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:RebootInstance
InstanceId	String	Yes	The specified instance ID
ForceStop	String	No	Whether to force shutdown upon device restart. Value: <ul style="list-style-type: none"> <li>- true</li> <li>- false</li> </ul> If it is set to "false", the system is shut down normally; if it is set to "true", the system is forced to shut down.

			If it is not specified, the default value is "false".
--	--	--	---

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidParameter	The specified parameter "ForceStop" is not valid.	400	The specified ForceStop is invalid (not in the enumerated range)
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because your instance is locked for security reasons
DiskError	IncorrectDiskStatus	403	Abnormal disk status

## Examples

### Request Example

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

## Return Example

XML format

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

JSON format

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

# Modifying instance properties

## *Description*

Modify the attribute information of an instance, such as the password, name and security group.

- Only properties explicitly specified in parameters are modified. Unspecified properties are not modified.
- The password for an instance in Deleted or Starting state cannot be reset. The new password takes effect only after the instance is restarted.
- If 'OperationLocks' of the instance indicates "LockReason": "security", the password cannot be changed.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyInstanceAttribute
InstanceId	String	Yes	The specified instance ID
InstanceName	String	No	Display name of the instance, which is a string of 2 to 128

			Chinese or English characters. It must begin with an uppercase/lowercase letter or a Chinese character and can contain numerals, ".", "_", or "-". It cannot begin with http:// or https://.
Description	String	No	Description of the instance, which is a string of 2 to 256 characters. The instance description is displayed on Aliyun console. It is null by default. It cannot begin with http:// or https://.
Password	String	No	Password is to be reset as one specified by the user. The password can contain only numerals or English characters. It must be 6 to 30 English characters long
HostName	String	No	Name of the instance using the OS, which is a string of at least two characters. "hostname" cannot start or end with "." or "-". In addition, two or more consecutive "." or "-" symbols are not allowed. On Windows, the host name can contain a maximum of 15 characters, which can be a combination of uppercase/lowercase letters, numerals, and "-". The host name cannot contain dots (".") or contain only numeric characters. On other OSs such as Linux, the host name can contain a maximum of 30 characters, which can be segments

			separated by dots, where each segment can contain uppercase/lowercase letters, numerals, or "-".
--	--	--	--

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidInstanceName.Malformed	The specified parameter "InstanceName" is not valid.	400	The specified InstanceName is invalid
InvalidDescription.Malformed	The specified parameter "Description" is not valid.	400	The format of the specified Description is invalid
InvalidHostPassword.Malformed	The specified parameter "Password" is not valid.	400	The format of the specified Password is invalid
InvalidHostName.Malformed	The specified parameter "HostName" is not valid.	400	The format of the specified HostName is invalid
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because the resource is locked for security reasons



## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

# Modifying VPC properties of an instance

## Description

Modify the VPC attributes of an ECS instance.

- When the VPC attribute is modified for a specified VSwitchId, the specified VSwitchId must belong to the same VPC.
- The current VSwitch and a new VSwitch of the specified instance must belong to the same zone.
- When VSwitchId is specified and PrivateIpAddress is not specified, the system automatically allocates an idle private IP address to the ECS instance.
- When both VSwitchId and PrivateIpAddress are specified, the specified private IP address must be in the network segment of the specified virtual switch.
- PrivateIpAddress depends on VSwitchId and cannot be specified separately.

- The modification is only permitted only when the ECS instance is in Stopped state. The ECS instance must be stopped before its virtual switch can be changed.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyInstanceVpcAttribute
InstanceId	String	Yes	The specified instance ID
VSwitchId	String	Yes	ID of a new virtual switch. Only virtual switches in the same zone can be changed
PrivateIpAddress	String	No	New private network IP address that cannot be specified separately

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidVSwitchId.NotFound	Specified virtual switch does not exist.	404	The specified virtual switch ID does not exist
InvalidVSwitchId.Mismatch	Specified instance and virtual switch are not in the same zone.	400	The specified instance and virtual switch are not in the same zone
InvalidInstanceId.NotFound	Specified instance does not exist.	404	The specified ECS instance does not exist
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 virtual switch

InvalidPrivateIpAddress.Malformed	Specified private IP address is malformed.	400	The specified private IP address is invalid
InvalidPrivateIpAddress.Duplicated	Specified private IP address is duplicated.	400	The specified private IP address is already in use
InvalidPrivateIp.Changing	Previous action is not finished yet.	400	The private IP address cannot be modified as the previous modification is not finished yet
InvalidVSwitchId.NotFound	Specified virtual switch is not found in the current VPC.	404	The specified virtual switch of the instance cannot be modified as it is not found in the current VPC.
IncorrectInstanceStatus	The current status of the instance does not support this operation.	400	Only an instance in Stopped state supports this operation.
OperationDenied	Specified operation is denied as your instance is not in the VPC.	400	The instance is not in the VPC
InvalidPrivateIp.Changing	Specified private IP address is not in the CIDR block of the virtual switch.	400	The private IP address is being modified by the instance (the private IP address can be modified only once when the instance is stopped once)

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Querying instance status

### *Description*

Obtain the list of all the instances of the current user in batches with status information. For details, see [Instance Status List](#).

### *Special limitations on RAM-assisted cross-account resource operations*

The status of only the first 100 instances can be queried. If a combination of "PageNumber" and "PageSize" exceeds this limit, the request is denied, and the error code is "Forbidden.AccessTooManyOthersResource".

In a response, "TotalCount" indicates how many instances out of all the instances of "ResourceOwner" grant the caller permission to perform this operation. When the number of instances is more than 100, "TotalCount" is set to "100".

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter, with a value: DescribeInstanceStatus

RegionId	String	Yes	ID of the region to which an instance belongs
ZoneId	String	No	ID of the zone to which an instance belongs
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	Sets the number of lines per page for queries per page. The maximum value is 50. The default value is 10

## Return Parameters

Name	Type	Description
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
InstanceStatuses	InstanceStatusSetType	An array format composed of InstanceStatusItemType. It returns the status information of an instance

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId value missing
InvalidParameter	The specified parameter "PageNumber" is not valid.	400	The specified PageNumber is invalid (not a numeral)
InvalidParameter	The specified parameter "PageSize" is not valid.	400	The specified PageSize is invalid (not a numeral or beyond permitted)

			range)
--	--	--	--------

## Examples

### Request Example

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

### Return Example

XML format

```
<DescribeInstanceStatusResponse>
  <RequestId>6EF60BEC-0242-43AF-BB20-270359FB54A7</RequestId>
  <TotalCount>2</TotalCount>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <InstanceStatuses>
    <InstanceStatus>
      <InstanceId>i-instance1</InstanceId>
      <Status>Running</Status>
    </InstanceStatus>
    <InstanceStatus>
      <InstanceId>i-ae4r89pp</InstanceId>
      <Status>Stopped</Status>
    </InstanceStatus>
  </InstanceStatuses>
</DescribeInstanceStatusResponse>
```

JSON format

```
{
  "RequestId": "6EF60BEC-0242-43AF-BB20-270359FB54A7",
  "TotalCount": 2,
  "PageNumber": 1,
  "PageSize": 10,
  "InstanceStatuses": {
    "InstanceStatus": [{
      "InstanceId": "i-instance1",
      "Status": "Running"
    }],
    {
      "InstanceId": "i-ae4r89pp",
```

```

    "Status": "Stopped"
  }}
}
}

```

## Querying instance messages

### *Description*

Query the detailed information of a specified instance.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeInstanceAttribute
InstanceId	String	Yes	ID of an instance

### *Return Parameters*

Name	Type	Description
InstanceId	String	ID of an instance
InstanceName	String	Display name of an instance
Description	String	Description of an instance
ImageId	String	ID of an image
RegionId	String	ID of the region to which an instance belongs
ZoneId	String	ID of the zone to which an instance belongs
ClusterId	String	ID of the cluster to which ECS belongs.
InstanceType	String	Type of an instance
HostName	String	Host name of an instance
Status	String	Status of the instance
OperationLocks	OperationLocksType	List of operation lock reasons

SecurityGroupIds	SecurityGroupIdSetType	SecurityGroupIdSetType, a set of security groups to which an instance belongs. At present, one instance can belong to only one security group
PublicIpAddress	IpAddressSetType	Public IP address of an instance
InnerIpAddress	IpAddressSetType	Intranet IP address of an instance
InternetMaxBandwidthIn	Integer	Maximum incoming bandwidth from the public network
InternetMaxBandwidthOut	Integer	Maximum outgoing bandwidth to the public network
InternetChargeType	String	Internet charge type, which can be "PayByBandwidth" or "PayByTraffic". The value is "PayByBandwidth" for a prepaid instance.  <ul style="list-style-type: none"> <li>- PayByTraffic: pay by traffic</li> <li>- PayByBandwidth: pay by bandwidth</li> </ul>
CreationTime	String	Creation time, which is represented according to ISO8601, and UTC is required. Format: YYYY-MM-DDThh:mmZ

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InternalError	The request processing has failed due to some unknown error.	500	Internal error

## Examples



## Request Example

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

## Return Example

XML format

```
<DescribeInstanceAttributeResponse>
  <InternetChargeType>PayByBandwidth</InternetChargeType>
  <CreationTime>2014-07-23T10:27:31Z</CreationTime>
  <Description></Description>
  <HostName>iZ111222333jZ</HostName>
  <ImageId>m-23vhbgzbe</ImageId>
  <InnerIpAddress>
    <IpAddress>10.171.254.1</IpAddress>
  </InnerIpAddress>
  <InstanceId>i-111222333</InstanceId>
  <InstanceName>iZ23r29djmjZ</InstanceName>
  <InstanceType>ecs.t1.small</InstanceType>
  <InternetMaxBandwidthIn>-1</InternetMaxBandwidthIn>
  <InternetMaxBandwidthOut>0</InternetMaxBandwidthOut>
  <ZoneId>cn-hangzhou-d</ZoneId>
  <OperationLocks></OperationLocks>
  <PublicIpAddress></PublicIpAddress>
  <RegionId>cn-hangzhou</RegionId>
  <SecurityGroupIds>
    <SecurityGroupId>sg-group</SecurityGroupId>
  </SecurityGroupIds>
  <SerialNumber>51d1353b-22bf-4567-a176-8b3e12e43135</SerialNumber>
  <Status>Running</Status>
  <VlanId></VlanId>
  <ClusterId></ClusterId>
  <RequestId>83EBE72D-96FC-41DB-8D5F-255B647FF705</RequestId>
</DescribeInstanceAttributeResponse>
```

JSON format

```
{
  "ClusterId": "",
  "CreationTime": "2014-07-23T10:27:31Z",
  "Description": "",
  "HostName": "iZ23r29djmjZ",
  "ImageId": "m-23vhbgzbe",
  "InnerIpAddress": {
    "IpAddress": [
```

```

    "10.171.254.1"
  ]
},
"InstanceId": "i-111222333",
"InstanceName": "iZ111222333Z",
"InstanceType": "ecs.t1.small",
"InternetChargeType": "PayByBandwidth",
"InternetMaxBandwidthIn": -1,
"InternetMaxBandwidthOut": 0,
"OperationLocks": {
  "OperationLock": []
},
"PublicIpAddress": {
  "IpAddress": []
},
"RegionId": "cn-hangzhou",
"RequestId": "597F0C16-D1FB-4227-9D15-7A434285C8AA",
"SecurityGroupIds": {
  "SecurityGroupId": [
    "sg-group"
  ]
},
"SerialNumber": "51d1353b-22bf-4567-a176-8b3e12e43135",
"Status": "Running",
"VlanId": "",
"ZoneId": "cn-hangzhou-d"
}

```

## Querying the instance list

### Description

Query the detailed information of all instances.

This interface will not verify the dependency between parameters. The return results are the "intersection" of all criteria.

If this parameter is blank, the filter will not take effect. However, if the InstanceIds is an empty Json Array (that is, []), the filter is regarded as effective and a blank result will be returned.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeInstances

RegionId	String	Yes	The region
VpcId	String	No	ID of the VPC
VSwitchId	String	No	ID of the virtual switch
ZoneId	String	No	ID of the zone
InstanceIds	String	No	A list of instance IDs A formatted Json Array: ["i-xxxxxxxx", "i-yyyyyyyy", ... "i-zzzzzzzz"]. A maximum of 10 IDs separated by single-byte commas.
InstanceNetworkType	String	No	The instance network type
PrivateIpAddresses	String	No	The list of the private IPs of VPC instances. When the NetworkType is VPC, this parameter is effective. A formatted Json Array: ["172.16.1.1", "172.16.2.1", ... "172.16.10.1"]. A maximum of 10 IPs, separated by single-byte commas.
InnerIpAddresses	String	No	The list of the private IPs of Classic type instances. When the NetworkType is Classic, this parameter is effective. A formatted Json Array: ["10.1.1.1", "10.1.2.1", ... "10.1.10.1"]. A maximum of 10 IPs, separated by single-byte commas.
PublicIpAddresses	String	No	The list of the public IPs of Classic type instances. When the NetworkType is Classic, this parameter is effective. A formatted Json Array: ["42.1.1.1", "42.1.2.1", ... "42.1.10.1"]. A maximum of 10 IPs, separated by single-

			byte commas.
SecurityGroupId	String	No	The ID of the security group
InstanceType	String	No	Instance type
InstanceTypeFamily	String	No	The instance type family
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10

## Return Parameters

Name	Type	Description
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
Instances	InstanceAttributesType	An array format composed of InstanceAttributesType, returns instance information

## Error Code

Refer to Public Error Codes

## Examples

### Request Example

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

## Return Example

XML format

```
<DescribeInstancesResponse>
  <ClusterId> </ClusterId>
  <CreationTime>2014-09-21T01:12:35Z</CreationTime>
  <Description> </Description>
  <EipAddress>
    <AllocationId> </AllocationId>
    <InternetChargeType> </InternetChargeType>
    <IpAddress> </IpAddress>
  </EipAddress>
  <HostName>iZ25skktcp4Z</HostName>
  <ImageId>ubuntu1404_64_20G_aliaegis_20140703.vhd</ImageId>
  <InnerIpAddress> </InnerIpAddress>
  <IpAddress> </IpAddress>
  <InstanceId>i-25skktcp4</InstanceId>
  <InstanceName>iZ25skktcp4Z</InstanceName>
  <InstanceNetworkType>vpc</InstanceNetworkType>
  <InstanceType>ecs.t1.xsmall</InstanceType>
  <InternetChargeType> </InternetChargeType>
  <InternetMaxBandwidthIn>-1</InternetMaxBandwidthIn>
  <InternetMaxBandwidthOut> </InternetMaxBandwidthOut>
  <OperationLocks>
    <LockReason> </LockReason>
  </OperationLocks>
  <PublicIpAddress>
    <IpAddress> </IpAddress>
  </PublicIpAddress>
  <RegionId>cn-beijing</RegionId>
  <SecurityGroupIds>
    <SecurityGroupId>sg-25am0n4q0</SecurityGroupId>
  </SecurityGroupIds>
  <Status>Running</Status>
  <VlanId> </VlanId>
  <VpcAttributes>
    <NatIpAddress>10.175.68.212</NatIpAddress>
    <PrivateIpAddress>
      <IpAddress>192.168.2.3</IpAddress>
    </PrivateIpAddress>
    <VSwitchId>vsw-25gbsqby3</VSwitchId>
    <VpcId>vpc-25onv3oi4</VpcId>
  </VpcAttributes>
  <ZoneId>cn-beijing-a</ZoneId>
</DescribeInstancesResponse>
```

JSON format

```
{
```

```
"Instances": {
  "Instance": [
    {
      "ClusterId": "",
      "CreationTime": "2014-09-21T01:12:35Z",
      "Description": "",
      "EipAddress": {
        "AllocationId": "",
        "InternetChargeType": "",
        "IpAddress": ""
      },
      "HostName": "iZ25skktcp4Z",
      "ImageId": "ubuntu1404_64_20G_aliaegis_20140703.vhd",
      "InnerIpAddress": {
        "IpAddress": []
      },
      "InstanceId": "i-25skktcp4",
      "InstanceName": "iZ25skktcp4Z",
      "InstanceNetworkType": "vpc",
      "InstanceType": "ecs.t1.xsmall",
      "InternetChargeType": "",
      "InternetMaxBandwidthIn": -1,
      "InternetMaxBandwidthOut": -1,
      "OperationLocks": {
        "LockReason": []
      },
      "PublicIpAddress": {
        "IpAddress": []
      },
      "RegionId": "cn-beijing",
      "SecurityGroupIds": {
        "SecurityGroupId": [
          "sg-25am0n4q0"
        ]
      },
      "Status": "Running",
      "VlanId": "",
      "VpcAttributes": {
        "NatIpAddress": "10.175.68.212",
        "PrivateIpAddress": {
          "IpAddress": [
            "192.168.2.3"
          ]
        }
      },
      "VSwitchId": "vsw-25gbsqby3",
      "VpcId": "vpc-25onv3oi4"
    },
    {
      "ZoneId": "cn-beijing-a"
    }
  ]
},
"PageNumber": 1,
"PageSize": 10,
"RequestId": "14A07460-EBE7-47CA-9757-12CC4761D47A",
"TotalCount": 1
}
```

# Deleting an instance

## Description

Release instance resources based on the incoming instance name. After being released, the physical resource used by the instance is recycled, including disks and snapshots. The associated data is completely removed and can never be recovered.

- Deletion is only possible for instances in the 'Stopped' state. After deletion, the instance status is 'Deleted'. This indicates the resources have been released and deletion was successful.
- When an instance is deleted, disks attached on the instance with a 'DeleteWithInstance' property of True will also be deleted. For the retained snapshots of these disks, if the disk's 'DeleteAutoSnapshot' property is 'false', the auto snapshots will be retained. If 'true', they will be deleted.
- Once an instance is deleted, all related data is removed and cannot be recovered.
- If, during instance deletion, the instance is under security control and 'OperationLocks' indicates "LockReason": "security", then, even though independent general cloud disks have a 'DeleteWithInstance' property of 'False', the system will ignore this property and release the general cloud disks attached to this instance.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteInstance
InstanceId	String	Yes	ID of an instance

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "InstanceId" that is mandatory for	400	InstanceId value missing

	processing this request is not supplied.		
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
ChargeTypeViolation	The operation is not permitted due to charge type of the instance.	403	Cannot delete prepaid instances
InternalError	The request processing has failed due to some unknown error.	500	Internal error
DependencyViolation.SLBConfiguring	Specified operation is denied as the instance is being used by another product.	400	The instance is referenced by SLB and the SLB is configuring

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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



# Adding an instance to a security group

## Description

Add an instance to a specified security group.

- This operation can only be performed for instances in the Stopped or Running state.
- Each instance can be attached to a maximum of 5 security groups
- Each security group can have up to 1000 instances

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:JoinSecurityGroup
InstanceId	String	Yes	The specified instance ID
SecurityGroupId	String	Yes	The security group ID

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist

MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	SecurityGroupId value missing
InstanceSecurityGroupLimitExceeded	Exceeding the allowed number of security groups that an instance can be in.	400	The instance has joined the maximum number of security groups allowed
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because the resource is locked for security reasons
SecurityGroupInstanceLimitExceeded	Exceeding the allowed number of instances of a security group.	403	The number of instances in a security group has reached the upper limit
InvalidInstanceId.Mismatch	Specified instance and security group are not in the same VPC.	403	<p>The specified instance and security group do not belong to the same VPC (Includes two other special conditions:</p> <ol style="list-style-type: none"> <li>1. The instance does not belong to a VPC type, while the security group does</li> <li>2. The instance belongs to a VPC type, while the</li> </ol>

			security group does not )
InvalidInstanceId.AlreadyExists	The specified instance is already in the specified security group.	403	The specified security group already contains the specified instance

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=JoinSecurityGroup
&InstanceId= i-instance1
&SecurityGroupId=F876FF7BA984
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Removing an instance from a security group

### Description

Remove an instance from a specified security group.

- This operation can only be performed on instances in the Stopped or Running state.
- Each instance must belong to at least 1 security group. If an instance only belongs to one security group and you try to remove it from this group, the request will fail.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:LeaveSecurityGroup
InstanceId	String	Yes	The specified instance ID
SecurityGroupId	String	Yes	The security group ID

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	SecurityGroupId value missing
InstanceLastSecurityGroup	The SecurityGroup is the only one for the Instance.	403	This is the only security group of the instance

IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because the resource is locked for security reasons

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=LeaveSecurityGroup
&InstanceId=i-instance1
&SecurityGroupId=F876FF7BA984
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Querying the address of an instance management terminal

### Description

Queries the ECS' Web management terminal address

- A management terminal address is valid for 15 seconds. If a connection is not established within 15 seconds of the query, the URL address will expire and you must query it again.
- The keepalive time of an individual management terminal connection is 60 seconds. If the user has not interacted with the management terminal window within 60 seconds, the connection is automatically closed.
- If the connection is interrupted, you cannot reconnect more than 30 times per minute.

## How to use the return values

The return values of this API must be put into the URL <https://g.alicdn.com/aliyun/ecs-console-vnc/0.0.2/index.html>, as parameters.

- Parameter 1: vncUrl, its value is the return value.
- Parameter 2: instanceId, its value is the instance ID.
- Parameter 3: isWindows, its value is the operating system of your instance. True for Windows, and false for others.

The final result looks like the following:

<https://g.alicdn.com/aliyun/ecs-console-vnc/0.0.2/index.html?vncUrl=xxx&instanceId=i-wz9hhwq5a6tm&isWindows=true>

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeInstanceVncUrl
RegionId	String	Yes	The region of the queried ECS instance
InstanceId	String	Yes	The queried ECS instance

## Return Parameters

Name	Type	Description
VncUrl	String	The management terminal URL

## Error Code

Error Code	Description	Http status code
------------	-------------	------------------

InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403
InternalServerError	The request processing has failed due to some unknown error.	500

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceVncUrl
&DescribeInstanceVncUrl
&InstanceId=AY121018033933eae8689
&<公共请求参数>
```

### Return Example

XML

```
<DescribeInstanceVncUrlResponse>
<RequestId>1450F2D7-5435-4420-BBC9-49C514B0157E</RequestId>
<VncUrl>ws%3A%2F%2Fhz01-
vncproxy.aliyun.com%2Fwebsockify%2F%3Fs%3DDvh%252FIA%252BYc73gWO48cBx2gBxUDVzaAnSKr74pq30mzq
UYgeUMcB%252FbkNixDxdEA996</VncUrl>
</DescribeInstanceVncUrlResponse>
```

JSON

```
{
  "RequestId": "1450F2D7-5435-4420-BBC9-49C514B0157E",
  "VncUrl": "ws%3A%2F%2Fhz01-
vncproxy.aliyun.com%2Fwebsockify%2F%3Fs%3DDvh%252FIA%252BYc73gWO48cBx2gBxUDVzaAnSKr74pq30mzq
UYgeUMcB%252FbkNixDxdEA996"
}
```

# Modifying the password of an instance management terminal

## Description

Modifies the ECS instance' s Web management terminal password

- The password must be at least 6 characters long and can contain capital/lowercase letters and numbers, but not special characters

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyInstanceVncPasswd
RegionId	String	Yes	The region of the ECS instance
InstanceId	String	Yes	The ECS instance
VncPassword	String	Yes	The ECS instance' s VNC password

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403



InternalServerError	The request processing has failed due to some unknown error.	500
IncorrectVncPassword.Malformed	The specified parameter "VncPassword" is not valid.	400

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceVncPasswd
&DescribeInstanceVncUrl
&InstanceId=AY121018033933eae8689
&VncPassword=123456
&<public request parameters>
```

### Return Example

XML

```
<ModifyInstanceVncPasswdResponse>
<RequestId>FDB6C963-9CE8-4B7F-BCA3-845F6BD29AFC</RequestId>
</ModifyInstanceVncPasswdResponse>
```

JSON

```
{
  "RequestId": "FDB6C963-9CE8-4B7F-BCA3-845F6BD29AFC",
}
```

## Disk Related Interfaces

### Creating a disk

## Description

Created disks must pass real-name authentication.If your real name has not been authenticated yet, visit [Aliyun.com](http://Aliyun.com) and click “Membership” in “User Center” to authenticate it.

This interface is used to create independent general cloud disks. System disk snapshots cannot be used to create data disks. During the process of disk creation, auto snapshots are deleted by default during disk deletion (that is, ‘DeleteAutoSnapshot=true’ ). This parameter can be modified through Modify Disk Attributes. The billing method is by amount.

In the request parameters, either the ‘Size’ or ‘SnapshotId’ must be selected to specify the disk size or snapshot that can be used to create the disk.

## Request Parameters

Name	Type	Required	Description
Action	String	Yes	Operation interface name, required parameter, with a value:CreateDisk
RegionId	String	Yes	The instance’s Region ID
ZoneId	String	Yes	ID of the zone
DiskName	String	No	The value of disk name is blank by default. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, “.”, “_” and “-”. The disk name will appear on the console.It cannot begin with http:// or https://.
Description	String	No	The value of disk description is blank by default. [2, 256] characters. The disk description will appear on the console.It cannot begin with http:// or https://.
DiskCategory	String	No	Category of the data disk Optional values are:

			<ul style="list-style-type: none"> <li>- Cloud - general cloud disk</li> <li>- cloud_efficiency - efficiency cloud disk</li> <li>- cloud_ssd - cloud SSD</li> </ul> <p>Default value:cloud</p>
Size	Integer	No	<p>Size of the system disk, in GB, values range:</p> <ul style="list-style-type: none"> <li>- Cloud - 5 ~ 2000</li> <li>- cloud_efficiency - 20 ~ 2048</li> <li>- cloud_ssd - 20 ~ 2048</li> </ul> <p>The value should be equal to or greater than the size of the specific SnapshotId.</p>
SnapshotId	String	No	<p>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 from on or before July 15, 2013 cannot be used to create a disk</p>
ClientToken	String	No	<p>Used to ensure 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 details, refer to the appendix: How to Ensure Idempotence.</p>

## Return Parameters

Name	Type	Description
DiskId	String	ID of the disk

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
MissingParameter	The input parameter "ZoneId" that is mandatory for processing this request is not supplied.	400	The ZoneId value is missing (it may also be that this user does not have permission to use this Zone)
InvalidRegionId.NotFound	The specified region does not exist.	404	The specified RegionId does not exist
InvalidZoneId.NotFound	The specified zone does not exist.	404	The specified ZoneId does not exist
InvalidSnapshotId.NotFound	The specified snapshot does not exist.	404	The specified SnapshotId does not exist
InvalidDiskName.Malformed	The specified disk name is wrongly formed.	400	The specified DiskName format is invalid
InvalidDescription.Malformed	The specified description is wrongly formed.	400	The specified DescriptionName format is invalid
InvalidParameter	The specified parameter "Size" is not valid.	400	The Size parameter is invalid
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
InvalidSnapshot.TooOld	This operation is forbidden because the specified snapshot is created	403	The specified snapshot was created on or before July 15, 2013, so the

	before 2013-07-15.		disk cannot be created
InvalidSnapshot.TooLarge	The capacity of snapshot exceeds 2000GB.	403	The specified snapshot capacity exceeds the maximum capacity of the disk category
OperationDenied	The specified snapshot is not allowed to create disk.	403	The specified snapshot is not permitted to create a disk
QuotaExceed.PortableCloudDisk	The quota of portable cloud disk exceeds.	403	The portable general cloud disk quota has been exceeded
MissingParameter	The input parameter either "SnapshotId" or "Size" should be specified.	400	The SnapshotId or Size parameter is not specified
InvalidDiskCategory.ValueUnauthorized	The disk category is not authorized.	403	The specified disk category is unauthorized
InvalidSnapshotId.NotReady	The specified snapshot has not completed yet.	403	The specified snapshot is not completed
InvalidSnapshotId.NotDataDiskSnapshot	The specified snapshot is system disk snapshot.	403	The specified snapshot is not a data disk snapshot and cannot be used to create a data disk
InvalidSnapshotId.NotFound	The specified snapshot does not exist.	404	Cannot find the specified snapshot

## Examples

### Request Example

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

## Return Example

XML format

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

JSON format

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

## Querying a disk

### Description

In the parameters below, 'RegionId', 'ZoneId', 'DiskIds', 'InstanceId', and the like are filter parameters. The parameters are of the logical relation of "AND". 'DiskIds' is a Json format Json Array. The format is shown below.

If this parameter is blank, the filter will not take effect. However, if 'DiskIds' is an empty Json Array (i.e. []), the filter is regarded as effective and a blank result will be returned.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeDisks
RegionId	String	Yes	The disk's Region ID
ZoneId	String	No	The default value is blank, which indicates a query of disks in all zones.
DiskIds	String	No	ID of the disk A formatted Json Array: ["d-xxxxxxx",

			"d-yyyyyyyyyy", ... "d-zzzzzzzzzz"]. A maximum of 10 IDs separated by single-byte commas.
InstanceId	String	No	ID of an instance
DiskType	String	No	all   system   data. The default value is all.
Category	String	No	The disk category all   cloud   ephemeral. The default value is all.
Status	String	No	The disk status In_use   Available   Attaching   Detaching   Creating   ReIniting   All. The default value is All.
SnapshotId	String	No	The snapshot used to create the disk
Name	String	No	Description
Portable	String	No	Whether or not the disk can be detached: <ul style="list-style-type: none"> <li>- True indicates it is an independent general cloud disk that exists independently and can be freely attached and detached in a zone</li> <li>- False indicates it is not an independent General cloud disk. These disks are created and deleted along with</li> </ul>

			<p>instances</p> <p>If the user needs to perform attach or detach operations, he needs to query disks with a property value of true.</p> <p>For ephemeral disks, general cloud system disks, and general cloud disks with monthly subscriptions, this property has a value of false.</p> <p>Users cannot modify this property.</p>
DeleteWithInstance	String	No	<p>Whether or not the disk is released along with the instance:</p> <ul style="list-style-type: none"> <li>- True indicates that when the instance is released, this disk will be released with it</li> <li>- False indicates that when the instance is released, this disk will be retained</li> </ul>
DeleteAutoSnapshot	String	No	<p>Whether or not auto snapshots are deleted when the disk is deleted.</p> <ul style="list-style-type: none"> <li>- True indicates the auto snapshots are deleted with the disk</li> <li>- False indicates the auto snapshots are</li> </ul>



			retained
PageNumber	Integer	No	The current page of the disk status list. The start value is 1 and the default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10

## Return Parameters

Name	Type	Description
RegionId	String	The region ID of the image
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

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
InvalidDiskType.ValueNotSupported	The specified disk type is not supported.	400	The specified disk type is not supported
InvalidCategory.ValueNotSupported	The specified disk category is not supported.	400	The specified disk category is not supported or not authorized
InvalidStatus.ValueNotSupported	The specified disk status is not supported.	400	The specified disk status is not supported

InvalidParameter	The specified parameter ""Portable"" is not valid.	400	The specified Portable parameter is invalid
InvalidParameter	The specified parameter ""DeleteWithInstance"" is not valid.	400	The specified DeleteWithInstance parameter is invalid
InvalidParameter	The specified parameter ""DeleteAutoSnapshot"" is not valid.	400	The specified DeleteAutoSnapshot parameter is invalid
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
InvalidDiskIds.Malformed	The amount of specified disk Ids exceeds the limit.	403	The specified DiskId format is incorrect

## Examples

### Request Example

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

### Return 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
}

```

## Mounting a disk

### *Description*

The instance state must be running or stopped and, in 'OperationLocks', the "LockReason": "security" cannot be 'True' and payment cannot be overdue.

In this interface, when the 'DeleteWithInstance' property is set and the instance's 'OperationLocks' indicates "LockReason": "security", the disk's 'DeleteWithInstance' property will be ignored and the disk will be released along with the instance.

### *Request Parameters*

Name	Type	Required	Description
Action	String	Yes	Operation interface name, required parameter, with a value:AttachDisk
InstanceId	String	Yes	The ID of the destination ECS
DiskId	String	Yes	The disk ID. The disk and Instance must be in the same zone
Device	String	No	The value "null" indicates that the value is allocated by default, starting from /dev/xvdb to /dev/xvdz Default value: Null
DeleteWithInstance	String	No	Whether or not the disk is released along with the instance: - True indicates that when the instance is released, this disk will be

			<p>released with it.</p> <ul style="list-style-type: none"> <li>- False indicates that when the instance is released, this disk will be retained.</li> </ul> <p>Default value: None, indicates taking the current value without modification.</p>
--	--	--	---

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId not specified
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	DiskId not specified
InvalidInstanceId.NotFound	The specified instance does not exist.	404	The specified instance does not exist
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified disk does not exist
InvalidDevice.Malformed	The specified device is not valid.	400	The specified disk does not exist
InvalidParameter	The specified parameter "DeleteWithInstance" is not valid.	400	The specified DeleteWithInstance parameter is invalid

InstanceDiskLimitExceeded	The amount of the disk on instance in question reach its limits.	403	The specified instance is already attached with the maximum number of disks
InvalidDevice.InUse	The specified device has been occupied.	403	The specified device already has an attached disk
IncorrectDiskStatus	The operation is not supported in this status.	403	The disk status is incorrect
DiskNotPortable	It is not a portable disk.	403	The specified disk cannot be detached
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance has a safety lock
ResourcesNotInSameZone	The specified instance and disk are not in the same zone.	403	The specified disk and instance are not in the same zone
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	Payment is overdue for the specified instance
DiskInArrears	The specified operation is denied as your disk owing fee.	403	Payment is overdue for the specified disk
IncorrectInstanceStatus	The current status of the resource does not support this operation.	400	The status of the specified instance is incorrect
DiskError	IncorrectDiskStatus	403	Abnormal disk status

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?action=AttachDisk
&InstanceId=i-23jggx34b
&DiskId=d-23jbf2v5m
&<Public Request Parameters>
```

## Return Example

XML format

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

JSON format

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

## Unmounting a disk

### Description

To carry out this operation, the disk's 'Portable' status must be 'True' and the instance it is attached to must be in the running or stopped state. Also, in 'OperationLocks', "LockReason": "security" cannot be 'True'.

When an independent basic cloud disk is detached from an instance through this interface, 'DeleteWithInstance' will be set to 'False'.

If the disk specified by 'DiskId' is not attached on the instance, this operation will fail.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter, with a value:DetachDisk
InstanceId	String	Yes	The ID of the destination ECS
DiskId	String	Yes	ID of the disk



## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId not specified
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	DiskId not specified
InvalidInstanceId.NotFound	The specified instance does not exist.	404	The specified instance does not exist
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified disk does not exist
IncorrectDiskStatus	The current disk status does not support this operation.	403	The disk status is incorrect
DiskNotPortable	It is not a portable disk.	403	The specified disk cannot be detached
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance has a safety lock
DependencyViolation	The specified disk has not been attached on the specified instance.	403	The specified disk is not attached on the specified instance
DiskTypeViolation	The specified disk is a system disk and cannot support the operation.	403	The specified disk is a system disk and cannot be detached

## Examples

## Request Example

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

## Return Example

XML format

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

JSON format

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

# Modifying disk properties

## *Description*

In this interface, when the 'DeleteWithInstance' property is set and the instance's 'OperationLocks' indicates "LockReason": "security", the disk's 'DeleteWithInstance' property will be ignored and the disk will be released along with the instance.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Operation interface name, required parameter, with a value:ModifyDiskAttribute
DiskId	String	Yes	ID of the disk

DiskName	String	No	<p>The disk name. The existing name remains the same when there is no new value specified. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, ".", "_", and "-". The disk name will appear on the console. It cannot begin with http:// or https://.</p>
Description	String	No	<p>The disk description. The existing name remains the same when there is no new value specified. The default value is blank. [2, 256] characters. The disk description will appear on the console. It cannot begin with http:// or https://.</p>
DeleteWithInstance	String	No	<p>Whether or not the disk is released along with the instance:</p> <ul style="list-style-type: none"> <li>- True indicates that when the instance is released, this disk will be released with it</li> <li>- False indicates that when the instance is released, this disk will be retained</li> </ul> <p>In the following conditions, an error is reported when this parameter is set to</p>

			<p>false:</p> <ul style="list-style-type: none"> <li>- When the disk's category property is ephemeral</li> <li>- When the disk's category property is cloud and the Portable property is false</li> </ul> <p>Default value: None, indicates not modifying the current value</p>
DeleteAutoSnapshot	String	No	<p>Whether or not auto snapshots are deleted when the disk is deleted.</p> <ul style="list-style-type: none"> <li>- True indicates the auto snapshots are deleted with the disk</li> <li>- False indicates the auto snapshots are retained</li> </ul> <p>Default value: None, indicates not modifying the current value</p>
EnableAutoSnapshot	String	No	<p>Whether or not the disk executes an auto snapshot policy (as a precondition the user's overall auto snapshot policy must be enabled):</p> <ul style="list-style-type: none"> <li>- True indicates the disk</li> </ul>

			<p>executes an auto snapshot policy</p> <p>- False indicates the disk does not execute an auto snapshot policy</p> <p>Default value: None, indicates not modifying the current value</p>
--	--	--	--

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	DiskId not specified
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified disk does not exist
InvalidDiskName.Malformed	The specified disk name is wrongly formed.	400	The DiskName format is incorrect
InvalidDescription.Malformed	The specified description is wrongly formed.	404	The Description format is incorrect
InvalidParameter	The specified parameter "DeleteWithInstance" is not valid.	400	The specified DeleteWithInstance parameter is invalid
NoAttributeToModify	No attribute to be modified in this request.	400	No properties have been modified

DiskNotPortable	It is not a portable disk.	403	The disk cannot be detached
-----------------	----------------------------	-----	-----------------------------

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Deleting a disk

### Description

When a disk device is no longer in use, it can be removed. However, only independent basic cloud disks can be removed.

- When removing the disk, the disk status must be "Available" .-If the disk with a specified ID does not exist, the request will be ignored.
- Because your snapshots are retained, you can choose to retain automatic snapshots. Make sure you delete unnecessary orphaned user snapshots and automatic snapshots (that is, snapshots created using a deleted disk) in time to make enough snapshot quota for

periodical automatic snapshot policies.

## Request Parameters

Name	Type	Required	Description
Action	String	Yes	Required parameter, with a value:DeleteDisk
DiskId	String	Yes	The ID of the disk device that needs to be removed

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	DiskId not specified
IncorrectDiskStatus	The current disk status does not support this operation.	403	The disk status is incorrect
DiskNotPortable	The operation is denied due to the specified disk is not a portable disk.	403	The disk cannot be detached
DiskTypeViolation	The specified disk is a system disk and cannot support the operation.	403	The specified disk is a system disk and cannot be detached
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot of the specified disk is being created

## Examples

## Request Example

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

## Return Example

XML format

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

JSON format

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

# Reinitializing a disk

## *Description*

Reinitializes the disk to the initial state. To carry out this operation, the disk must be in the 'In\_use' status and the instance state must be Stopped. However, if the instance has not been activated for the first time after creation, the attached disks on it cannot be reinitialized.

Calling this interface restores the disk to its initial state at the time of creation. That is:

- A data disk based on a directly created empty disk is initialized to the empty disk status.
- A data disk created using a snapshot is initialized to the snapshot status.
- A system disk is initialized to the initial status of the image.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ReInitDisk



DiskId	String	Yes	The ID of the specified disk device
--------	--------	-----	-------------------------------------

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	DiskId not specified
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified disk does not exist
IncorrectDiskStatus	The current disk status does not support this operation.	403	The disk status is incorrect
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the specified instance is incorrect
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance has a safety lock
InvalidSnapshot.TooOld	The disk is created from a snapshotId made before 2013-07-15, it cannot be re-initiated the specified disk any more since the detached first time.	403	The specified source snapshot was created on or before July 15, 2013, so the disk cannot be reinitialized
InvalidSourceSnapshot	The snapshot which is used to create the specified disk has been deleted.	403	The source snapshot of the specified disk has been deleted, so the disk cannot be reinitialized
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay	403	Payment is overdue for the specified instance

	mode).		
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot of the specified disk is being created
IncorrectDiskStatus.NeverUsed	The specified disk has never been used after creating.	403	The disk has not been used since creation, so the content has not changed

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Rolling back a disk

### Description

Roll back the disk content by using the snapshot of the disk.

- The operation is only possible for instances in the 'Stopped' status.
- This operation is only possible when the disk status 'In\_use'.
- The specified 'SnapshotId' must be the snapshot of 'DiskId'. Otherwise, an error will be returned.
- If 'OperationLocks' of the instance indicates "LockReason": "security", an error will be returned.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ResetDisk
DiskId	String	Yes	The ID of the specified disk device
SnapshotId	String	Yes	The snapshot ID of the disk to be restored

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	The DiskId parameter not specified
MissingParameter	The input parameter "SnapshotId" that is mandatory for processing this request is not supplied.	400	The SnapshotId parameter not specified
InvalidDiskId.NotFound	The specified disk does not exist.	404	The specified disk does not exist
InvalidSnapshotId.NotFound	The specified snapshot does not exist.	404	The specified snapshot does not exist
IncorrectDiskStatus	The current disk status does not	403	The disk status is incorrect

	support this operation.		
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the specified instance is incorrect
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance has a safety lock
InvalidParameter.Mismatch	The specified snapshot is not created from the specified disk.	403	The specified snapshot is not a snapshot of the specified disk
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, so the disk cannot be rolled back
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The source snapshot of the specified disk has been deleted, so the disk cannot be reinitialized
OperationDenied	The specified snapshot does not support ResetDisk.	403	The specified snapshot cannot be used for rollback
InvalidSnapshotId.NotReady	The specified snapshot has not completed yet.	403	The specified snapshot is not completed

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Replacing the system disk

### *Description*

Replacing the system disk will replace the disk ID of the system disk for the ECS. When replacing the system disk, the disk category or charge type will not be replaced. The original system disk will be deleted. The original disk's auto snapshots will be deleted depends on the setting of 'DeleteAutoSnapshot'. However, user snapshots will be retained.

The instance status must be Stopped and, in 'OperationLocks', "LockReason": "security" cannot be indicated and payment cannot be overdue.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ReplaceSystemDisk
InstanceId	String	Yes	The specified instance ID
ImageId	String	Yes	The ID of the image used when resetting the system.
ClientToken	String	No	Used to ensure 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 details, refer to the appendix: How to Ensure Idempotence.
--	--	--	---

## Return Parameters

Name	Type	Description
DiskId	String	The disk ID of the new system disk

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId parameter not specified
MissingParameter	The input parameter "ImageId" that is mandatory for processing this request is not supplied.	400	ImageId parameter not specified
InvalidInstanceId.NotFound	The specified instance does not exist.	404	The specified instance does not exist
InvalidImageId.NotFound	The specified Image is disabled or is deleted.	404	The specified image does not exist
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The status of the specified instance is incorrect
InstanceLockedForSecurity	The instance is locked due to security.	403	The specified instance has a safety lock
ImageNotSubscribed	The specified image is not subscribed.	403	You have not subscribed to the specified image in the marketplace.
ImageRemovedInMarket	The specified market image is not available, Or the specified user	403	The specified image has been removed from the marketplace

	defined image includes product code because it is based on an image subscribed from the marketplace, and that image in marketplace with the same product code has been removed.		
OperationDenied	Internal Error.	500	Internal error
InvalidParameter.Conflict	The specified image does not support the specified instance type	400	The specified image cannot be used on the specified instance type
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified instance does not exist
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	Payment is overdue for the specified instance
ChargeTypeViolation	The operation is not permitted due to charge type of the instance.	403	The charge type of the specified instance does not support replacing the system disk
DiskCreatingSnapshot	The operation is denied due to a snapshot of the specified disk is not completed yet.	403	A snapshot of the specified disk is being created
IoOptimized.NotSupported	The specified image does not support IoOptimized Instance type.	403	The specified image must support the IoOptimized instance type
InvalidParameter.Conflict	The specified image does not support the specified instance type.	400	The specified image does not support the creation of an instance with this specification

## Examples

## Request Example

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

## Return Example

XML format

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

JSON format

```
{
  "DiskId": "d-23jbf2v5m",
  "RequestId": "F3CD6886-D8D0-4FEE-B93E-1B73239673DE"
}
```

# Resizing a disk

## *Description*

- Currently, only data disks can be resized.
- Only **general cloud data disks** can be resized.
- A data disk attached to an instance can be resized only when the instance is in "Running" or "Stopped" state.
- If a snapshot is being created on a disk, resizing is **not permitted**.
- **The resizing of a disk attached to an instance takes effect only after the instance is restarted from the console or by using Open APIs.**
- The resizing is applicable to only the disk capacity but not to the partitions and the file system. After the resizing is completed, you need to allocate the storage space manually.



## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ResizeDisk
DiskId	String	Yes	ID of the disk
NewSize	Integer	Yes	The resize to which you wish to expand the disk. In GB, value range Cloud:5 ~ 2000
ClientToken	String	No	Used to ensure 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.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidDiskSize.TooSmall	Specified new disk size is less than the original disk size	403	The specified new disk capacity is smaller than the original capacity
InvalidParameter	The specified parameter "NewSize" is not valid.	403	The specified new disk capacity exceeds the permissible range
OperationDenied	The status of the disk or the instance that the disk is attaching with does not support the operation	403	The status of the disk or instance it is attached on does not support resize
OperationDenied	The type of the disk does not support	403	The disk category does not support

	the operation		resize
InvalidDiskId.NotFound	The specified disk does not exist.	404	The disk does not exist
InvalidInstanceId.NotFound	The specified instance does not exist.	404	The instance the disk is attached on does not exist
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	Instance the disk is attached on has expired

## Examples

### Request Example

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

### Return Example

XML format

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

JSON format

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

## Snapshot Related Interfaces

# Creating a snapshot

## Description

Create snapshot of a specified disk storage device.

- A snapshot can only be created when the ECS is in Stopped or Running state. (However, snapshots cannot be created for newly created instances that have not been activated)
- If you create a snapshot immediately after you create an ECS system disk or after you add a data disk by using a snapshot, an error will be returned because the system disk or data disk has not finished loading data. Generally, a snapshot can be created 1 hour after system disk creation. The time after which a data disk snapshot can be created depends on the amount of disk data.
- After a disk is added, if the instance has never been started, the added disk cannot be used to create snapshots.
- If snapshot creation is incomplete (that is, the progress bar has not reached 100%), this snapshot cannot be used to create a user-defined image.
- If snapshot creation is incomplete (that is, the progress bar has not reached 100%), you may not create another snapshot of the same disk.
- The snapshot quota is determined by the total number of disks owned by the account. The maximum number of snapshots you can create is the number of disks multiplied 6 plus + 6. For example, for 2 disks, you can have  $(2 \times 6) + 6 = 18$  snapshots.
- If the disk is in 'In\_use' state and the 'OperationLocks' of the instance it is attached on indicates "LockReason" : "security" , a snapshot cannot be created.
- The instance to which a disk is mounted must be started once before the disk can be used to create snapshots.
- If a created independent basic cloud disk has never been mounted, an error message is displayed when you create snapshots.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CreateSnapshot
DiskId	String	Yes	The specified disk ID
SnapshotName	String	No	The snapshot display name. [2, 128] English or Chinese characters. It must begin with an

			uppercase/lowercase letter or a Chinese character, and may contain numbers, "_", or "-". It cannot begin with "auto" (snapshot names starting with auto are reserved for auto snapshots). The snapshot display name will appear on the console. It cannot begin with http:// or https://.
Description	String	No	The snapshot description. [2, 256] characters. The snapshot description will appear on the console. If this parameter is not specified, it is null. The default value is null. It cannot begin with http:// or https://.
ClientToken	String	No	Used to ensure 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 details, refer to the appendix: How to Ensure Idempotence.

## Return Parameters

Name	Type	Description
SnapshotId	String	The snapshot ID

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "DiskId" that is mandatory for	400	The DiskId parameter not specified

	processing this request is not supplied.		
InvalidDiskId.NotFound	The specified DiskId does not exist.	404	The specified disk does not exist
InvalidSnapshotName.Malformed	The specified SnapshotName is wrongly formed.	400	The SnapshotName format is invalid
InvalidDescription.Malformed	The specified description is wrongly formed.	404	The Description format is invalid
IncorrectInstanceStatus	The current status of the resource does not support this operation.	400	The status of the specified instance is incorrect
IncorrectDiskStatus.CreatingSnapshot	The snapshot of the disk is still creating.	403	A snapshot of the specified disk is being created
InstanceLockedForSecurity	The disk attached instance is locked due to security.	403	The specified instance has a safety lock
IncorrectDiskStatus.NeverAttached	The specified disk has never been attached to any instance.	403	The portable basic cloud disk has not been attached since creation, so the content has not changed
QuotaExceed.Snapshot	The snapshot quota exceeds.	403	The snapshot quota has been reached
IncorrectDiskStatus.NeverUsed	The specified disk has never been used after creating.	403	The disk has not been used since creation, so the content has not changed
CreateSnapshot.Failed	The process of creating snapshot is failed	403	Snapshot creation failed

## Examples

### Request Example

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

## Return Example

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"
}
```

## Deleting a snapshot

### *Description*

Delete the specified snapshot. If the snapshot being created (or not 100% completed) needs to be cancelled, this interface can be called to delete the snapshot (or cancelling the creation of the snapshot).

-If the snapshot with a specified ID does not exist, the request will be ignored.

- If a snapshot has been used to create a user-defined image, the snapshot cannot be deleted. The snapshot can only be deleted after the appropriate user-defined image is deleted.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteSnapshot
SnapshotId	String	Yes	The snapshot ID

### *Return Parameters*

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
SnapshotCreatedImage	The snapshot has been used to create user defined image(s).	403	The specified snapshot has already been used to create the user-defined image
SnapshotCreatedDisk	The snapshot has been used to create disk(s).	403	The specified snapshot has already been used to create the disk
MissingParameter	The input parameter "SnapshotId" that is mandatory for processing this request is not supplied.	400	The SnapshotId parameter not specified

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteSnapshot
&SnapshotId=s-923FE2BF0
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

```
}

```

## Querying the snapshot list

### Description

Query the list of all snapshots of a disk device in ECS.

"InstanceId", "DiskId", and "SnapshotIds" are no longer mandatory but used as filters. Logically, they are in an AND relation.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeSnapshots
RegionId	String	Yes	The disk's Region ID
InstanceId	String	No	The specified instance ID
DiskId	String	No	The ID of the specified disk device
SnapshotIds	String	No	Snapshot ID A formatted Json Array: ["s-xxxxxxxx", "s-yyyyyyyy", ... "s-zzzzzzzz"]. A maximum of 10 IDs separated by single-byte commas
PageNumber	Integer	No	The current page of the disk status list. The start value is 1 and the default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10



## Return Parameters

Name	Type	Description
RegionId	String	The region ID of the image
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
Snapshots	SnapshotType	A collection composed of snapshot details SnapshotType

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not 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
InvalidSnapshotIds.Malformed	The amount of specified specified snapshot Ids exceeds the limit.	403	The format of the parameter SnapshotIds is incorrect

## Examples

### Request Example

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

## Return 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>
      <SnapshotId>s-23f2i9s4t</SnapshotId>
    </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>
      <SnapshotId>s-23izto5qm</SnapshotId>
    </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": "2014-07-24T13:00:52Z",
        "Description": "",
        "ProductCode": "",
        "Progress": "100%",
        "SnapshotId": "s-23f2i9s4t",
        "SnapshotName": "auto_20140724_2",
```

```

    "SourceDiskId": "d-23x0r79qy",
    "SourceDiskSize": "50",
    "SourceDiskType": "DATA"
  },
  {
    "CreationTime": "2014-07-24T13:00:42Z",
    "Description": "",
    "ProductCode": "",
    "Progress": "100%",
    "SnapshotId": "s-23izto5qm",
    "SnapshotName": "auto_20140724_2",
    "SourceDiskId": "101-70105379",
    "SourceDiskSize": "5",
    "SourceDiskType": "DATA"
  }
]
},
"TotalCount": 36
}

```

# Creating an Automatic Snapshot Policy

## *Description*

Creates an automatic snapshot policy.

Currently, you are allowed to create up to three automatic snapshot policies.

You can apply automatic snapshot policies you have created to any disk.

You can modify automatic snapshot policies you have created.

If a disk contains a large volume of data and the first snapshot exceeds the interval between two automatic snapshot time points, no snapshot is taken at the next time point. For example, if you set automatic snapshot times at 9:00, 10:00, 11:00, and 12:00, and the snapshot at 9:00 takes 80 minutes, finishing at 10:20, the 10:00 snapshot cannot be taken and the next snapshot time will be 11:00.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with the value:

			CreateAutoSnapshotPolicy
RegionId	String	Yes	RegionId
AutoSnapshotPolicyName	String	Yes	The name of the automatic snapshot policy. Blank when left empty, blank by default; [2, 128] English or Chinese characters; must begin with an uppercase/lowercase letter or Chinese character; can contain numbers, ".", "" or "-". The disk name will appear on the console. Cannot start with http:// or https://
TimePoints	String	Yes	Indicates the automatic snapshot creation times. The minimum unit is an hour, with 24 time points available from 00:00 - 23:00. The parameter value ranges from 0 to 23; e.g.: 1 indicates 01:00. Multiple time points may be selected. The parameter is transmitted as a formatted Json Array: [ "0" , "1" , ... "23" ]; a maximum of 24 time points, separated by commas.
RepeatWeekdays	String	Yes	Indicates the automatic snapshot repetition dates. Select the days to create snapshots from Monday to Sunday. The parameter value ranges from 1 to 7; e.g.: 1 indicates Monday. Multiple dates may be selected. The parameter is transmitted as a formatted Json Array: [ "1" , "2" ... "7" ].

RetentionDays	integer	No	Indicates the snapshot retention time in days: -1: Retained permanently 1-65536: Indicates the number of days retained Default value: -1
ClientToken	String	No	Used to ensure the idempotence of the request. The value is generated by a client. It must be unique among all requests and can contain a maximum of 64 ASCII characters. For details, refer to the appendix.

## Return Parameters

Name	Type	Description
AutoSnapshotPolicyId	String	The automatic snapshot policy ID

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=CreateAutoSnapshotPolicy
&SettingTimePoints=[ "0" , "11 " , "21 " ]&SettingRepeatWeekdays=[ "1" , "2" , "4" , "7" ]
&RetentionDays=30
&<Public Request Parameters>
```

### Return Example

XML format

```
<CreateAutoSnapshotPolicyResponse>
  <RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673DE</RequestId>
  <AutoSnapshotPolicyId>p-233e6ylv0</AutoSnapshotPolicyId>
</CreateAutoSnapshotPolicyResponse>
```

JSON format

```
{
  "RequestId":"F3CD6886-D8D0-4FEE-B93E-1B73239673DE"
  "AutoSnapshotPolicyId":"p-233e6ylv0"
}
```

## Releasing an Automatic Snapshot Policy

### *Description*

Releases an automatic snapshot policy.

- If the automatic snapshot policy currently being released has applied to a disk, the policy will be canceled for the disk after the policy is released.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter, with the value: DeleteAutoSnapshotPolicy
RegionId	String	Yes	The ID of the region in which to release the automatic snapshot policy
AutoSnapshotPolicyId	String	Yes	The ID of the automatic snapshot policy to be released

### *Return Parameters*

All are public return parameters. For details, see Public Return Parameters.

### *Examples*

## Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteAutoSnapshotPolicy
&AutoSnapshotPolicyId=p-233e6ylv0
&<Public Request Parameters>
```

## Return Example

XML format

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

JSON format

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

# Modifying an Automatic Snapshot Policy

## *Description*

Modifies an automatic snapshot policy.

- After you modify an automatic snapshot policy, disks that have previously executed the policy will now execute the modified policy.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter, with the value: ModifyAutoSnapshotPolicyEx
RegionId	String	Yes	The region home to

			the automatic snapshot policy you want to modify
AutoSnapshotPolicy Id	String	Yes	The ID of the automatic snapshot policy you want to modify.
AutoSnapshotPolicy Name	String	No	The name of the automatic snapshot policy. If this parameter is null, the policy is not modified.
TimePoints	String	No	Indicates the automatic snapshot creation times. The minimum unit is an hour, 24 time points available from 00:00 - 23:00. The parameter value ranges from 0 to 23; e.g.: 1 indicates 01:00. Multiple time points may be selected.If this parameter is null, the policy is not modified. The parameter is transmitted as a formatted Json Array: [ "0" , "1" , ... "23" ]; a maximum of 24 time points, separated by commas.
RepeatWeekdays	String	No	Indicates the automatic snapshot repetition dates. Select the days to create snapshots from Monday to Sunday. The parameter value ranges from 1 to 7; e.g.: 1 indicates Monday. Multiple repetition dates may be selected.If this parameter is null, the policy is not modified. The parameter is transmitted as a formatted Json Array: [ "1" , "2" ... "7" ].
RetentionDays	Integer	No	Indicates the snapshot retention time in days - -1: Retained



			<ul style="list-style-type: none"> <li>permanently</li> <li>- 1-65536: Indicates the number of days retained</li> <li>- If this parameter is null, the policy is not modified.</li> </ul>
ClientToken	String	No	Used to ensure the idempotence of the request. The value is generated by a client. It must be unique among all requests and can contain a maximum of 64 ASCII characters. For details, refer to the appendix.

## Return Parameters

All are public return parameters. For details, see Public Return Parameters.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyAutoSnapshotPolicy
&AutoSnapshotPolicyId=p-233e6ylv0&SettingTimePoints=[ "0" , "11 " , "21
" ]&SettingRepeatWeekdays=[ "1" , "2" , "4" , "7" ]&RetentionDays=30
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Querying Automatic Snapshot Policies

### Description

Queries automatic snapshot policies.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with the value: DescribeAutoSnapshotPolicyEx
RegionId	String	Yes	The region in which to query automatic snapshot policies
AutoSnapshotPolicyId	String	No	The ID of the automatic snapshot policy to query. If blank, all policies will be returned. A formatted Json Array: [ "p-xxxxxxxxx" , "p-yyyyyyyyy" , ... "p-zzzzzzzz" ]
PageNumber	Integer	No	The page number of the automatic snapshot policy list, starting from 1, and 1 by default.
PageSize	Integer	No	Specifies the number of rows per page in case of querying by page. The maximum value is "50" and the default value is "10".

## Return Parameters

Name	Type	Description
TotalCount	Integer	The total number of snapshots
PageNumber	Integer	The page number of the snapshot list
PageSize	Integer	The input number of rows per page
AutoSnapshotPolicys	AutoSnapshotPolicyType	The automatic snapshot policy details, a set composed of AutoSnapshotPolicyType

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeAutoSnapshotPolicy
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeAutoSnapshotPolicyResponse>
<AutoSnapshotPolicys>
  <AutoSnapshotPolicy>
    <CreationTime>2014-04-21T12:08:52Z</CreationTime>
    <AutoSnapshotPolicyId>p-23f2i9s4t</AutoSnapshotPolicyId>
    <SettingTimePoints>[ "2" , "9" ]</SettingTimePoints>
    <SettingRepeatWeekdays>[ "3" , "4" , "5" , "7" ]</SettingRepeatWeekdays>
    <RetentionDays>-1< RetentionDays>
  </AutoSnapshotPolicy>
  <AutoSnapshotPolicy>
    <CreationTime>2014-07-24T13:00:52Z</CreationTime>
    <AutoSnapshotPolicyId>p-23f2i9s4t</AutoSnapshotPolicyId>
    <SettingTimePoints>[ "0" , "1" ]</SettingTimePoints>
    <SettingRepeatWeekdays>[ "1" , "7" ]</SettingRepeatWeekdays>
    <RetentionDays>30< RetentionDays>
  </AutoSnapshotPolicy>
</AutoSnapshotPolicys>
<PageNumber>1</PageNumber>
<PageSize>2</PageSize>
<TotalCount>2</TotalCount>
<RequestId>F3CD6886-D8D0-4FEE-B93E-1B73239673DE</RequestId>
```

```
</DescribeAutoSnapshotPolicyResponse>
```

JSON format

```
{
  "PageNumber": 1,
  "PageSize": 2,
  "RequestId": "659F91C6-1949-43B0-90C4-B6342CA757D5",
  "AutoSnapshotPolicies": {
    "AutoSnapshotPolicy": [
      {
        "CreationTime": "2014-07-24T13:00:52Z",
        "AutoSnapshotPolicyId": "p-23f2i9s4t",
        "SettingTimePoints": "[ \"0\" , \"1\" ]",
        "SettingRepeatWeekdays": "[ \"1\" , \"7\" ]",
        "RetentionDays": "30",
      },
      {
        "CreationTime": "2014-04-21T12:08:52Z",
        "AutoSnapshotPolicyId": "p-a1fd3g5s1",
        "SettingTimePoints": "[ \"2\" , \"9\" ]",
        "SettingRepeatWeekdays": "[ \"3\" , \"4\" , \"5\" , \"7\" ]",
        "RetentionDays": "-1",
      }
    ]
  },
  "TotalCount": 2
}
```

# Applying an Automatic Snapshot Policy

## *Description*

You can apply automatic snapshot policies to disks.

- A single disk can only apply one automatic snapshot policy. Applying an automatic snapshot policy on a disk will modify the current policy.
- The same automatic snapshot policy can be applied to multiple disks simultaneously.
- When the same snapshot policy is applied to multiple disks, these disks may not be able to take snapshots concurrently.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter, with the value: ApplyAutoSnapshotPolicy
RegionId	String	Yes	The region ID in which you want to apply the automatic snapshot policy
AutoSnapshotPolicyId	String	Yes	The ID of the automatic snapshot policy you want to apply
DiskIds	String	Yes	The disk set to which the automatic snapshot policy is applied. A formatted Json Array: [ "d-xxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz" ]. A maximum of X IDs separated by single-byte commas.

## Return Parameters

All are public return parameters. For details, see Public Return Parameters.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ApplyAutoSnapshotPolicy
&Snapshots=[ "d-233e6ylv0" , "d-23vpbi03 " , "d-23vasz3ds " ]
&<Public Request Parameters>
```

### Return Example

XML format

```
<ApplyAutoSnapshotPolicyResponse>
```

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

JSON format

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

## Canceling an Automatic Snapshot Policy

### Description

Cancel a disk's automatic snapshot policy.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Operator interface name, required parameter, with the value: CancelAutoSnapshotPolicy
RegionId	String	Yes	The ID of the region in which you want to cancel the automatic snapshot policy
DiskIds	String	Yes	The disk set for which to cancel the automatic snapshot policy. A formatted Json Array: [ "d-xxxxxxx", "d-yyyyyyyy", ... "d-zzzzzzzz" ]. A maximum of X IDs separated by single-byte commas.

## Return Parameters

All are public return parameters. For details, see Public Return Parameters.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteAutoSnapshotPolicy
&AutoSnapshotPolicyId=p-233e6ylv0
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Image Related Interfaces

# Querying available images

### Description

Query the list of images available to the user. The displayed image resource list contains private images of the user and images of system resources provided by Aliyun, as well as other public images and those available on the image market. An image market image must be subscribed to at the

image market website before an ECS instance can be created. This interface supports querying by page. The query results contain the total number of usable image resources and the image resources on the current page. By default, 10 results are displayed per page.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeImages
RegionId	String	Yes	ID of the region to which an instance belongs
ImageId	String	No	The image ID. Multiple image IDs can be entered, separated by single-byte 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	<p>The alias of the image owner</p> <p>Value:</p> <ul style="list-style-type: none"> <li>- system   self   others   marketplace</li> </ul> <p>Default value: None, indicates that "system + self + others" is returned</p> <p>If this parameter is not specified, this parameter is not used as a filter condition.</p> <p>Value description:</p> <ul style="list-style-type: none"> <li>- system: images provided by Aliyun</li> <li>- self: images defined by users</li> <li>- others:</li> </ul>



			available images of others - marketplace: images available on the image market
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	Sets the number of lines per page for queries per page. The maximum value is 50. The default value is 10

## Return 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	ImageType	A collection composed of image information ImageType

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId field missing
InvalidImageOwnerAlias.ValueNotSupported	The specified ImageOwnerAlias value is not supported.	400	Invalid ImageOwnerAlias value

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

## Examples

### Request Example

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

### Return 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>ubuntu1204_32_20G_aliaegis_20140703.vhd</ImageId>
      <ImageName>ubuntu1204_32_20G_aliaegis_20140703.vhd</ImageName>
      <ImageOwnerAlias>system</ImageOwnerAlias>
      <ImageVersion>1.0</ImageVersion>
      <IsSubscribed>>false</IsSubscribed>
      <OSName>Ubuntu 12.04 32位</OSName>
      <ProductCode> </ProductCode>
      <Progress>100</Progress>
      <Size>20</Size>
      <Status>Available</Status>
    </Image>
    <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>ubuntu1204_32_20G_aliaegis_20140703.vhd</ImageId>
<ImageName>ubuntu1204_32_20G_aliaegis_20140703.vhd</ImageName>
<ImageOwnerAlias>system</ImageOwnerAlias>
<ImageVersion>1.0</ImageVersion>
<IsSubscribed>>false</IsSubscribed>
<OSName>Ubuntu 12.04 32位</OSName>
<ProductCode></ProductCode>
<Progress>100</Progress>
<Size>20</Size>
<Status>Available</Status>
</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": "i386",
        "CreationTime": "2014-07-22T09:53:44Z",
        "Description": "",
        "DiskDeviceMappings": {
          "DiskDeviceMapping": [
            {
              "Device": "/dev/xvda",
              "Size": "20",
              "SnapshotId": ""
            }
          ]
        }
      }
    ]
  },
  "ImageId": "ubuntu1204_32_20G_aliaegis_20140703.vhd",
  "ImageName": "ubuntu1204_32_20G_aliaegis_20140703.vhd",
  "ImageOwnerAlias": "system",
  "ImageVersion": "1.0",
  "IsSubscribed": false,
  "OSName": "Ubuntu 12.04 32 bits",
  "ProductCode": "",
  "Size": 20
},

```

```
{
  "Architecture": "x86_64",
  "CreationTime": "2014-07-22T09:53:19Z",
  "Description": "",
  "DiskDeviceMappings": {
    "DiskDeviceMapping": [
      {
        "Device": "/dev/xvda",
        "Size": "20",
        "SnapshotId": ""
      }
    ]
  }
  "ImageId": "ubuntu1204_64_20G_aliaegis_20140703.vhd",
  "ImageName": "ubuntu1204_64_20G_aliaegis_20140703.vhd",
  "ImageOwnerAlias": "system",
  "ImageVersion": "1.0",
  "IsSubscribed": false,
  "OSName": "Ubuntu 12.04 64 bits",
  "ProductCode": "",
  "Size": 20
}
]
}
"PageNumber": 1,
"PageSize": 2,
"RegionId": "cn-hangzhou",
"RequestId": "49CBCED4-C9B9-4851-BEB5-8FB5E5169E30",
"TotalCount": 24
}
```

# Creating a user-defined image

## *Description*

Create a user-defined image with snapshots. The created image can be used to create a new ECS instance.

- Only a system disk snapshot can be used to create user-defined images.
- Only a snapshot in completed state (the progress is 100%) can be used to create a user-defined image.
- If 'OperationLocks' of the instance indicates "LockReason": "security", a user-defined image cannot be created.
- The snapshots created on and before July 15, 2013 cannot be used to create user-defined images. When a request is denied for this reason, the code in "Response" is "InvalidSnapshot.TooOld".

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CreateImage
RegionId	String	Yes	The region ID of the image
SnapshotId	String	Yes	The snapshot ID. A user-defined image is created from the specified snapshot.
ImageName	String	No	The name of the image, [2, 128] English or Chinese characters. It must begin with an uppercase/lowercase letter or a Chinese character, and may contain numbers, "_" or "-". It cannot begin with http:// or https://.
ImageVersion	String	No	The version number of the image, with a length limit of 1 to 40 English characters
Description	String	No	The description of the image, with a length limit of 0 to 256 characters. Leaving it blank means null, which is the default value.It cannot begin with http:// or https://.
ClientToken	String	No	Used to ensure 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 details, refer to the appendix: How to Ensure Idempotence.

## Return Parameters

Name	Type	Description
------	------	-------------

ImageId	String	ID of an image
---------	--------	----------------

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId field missing
MissingParameter	The input parameter "SnapshotId" that is mandatory for processing this request is not supplied.	400	The SnapshotId field missing
InvalidRegionId.NotFound	The specified region does not exist.	404	The specified regionId does not exist
InvalidSnapshotId.NotFound	The specified snapshot does not exist.	404	Invalid SnapshotId value (or the user might not be authorized to use the zone).
InvalidImageName.Malformed	The specified Image name is wrongly formed.	400	Invalid ImageName value (it contains unsupported characters or its length exceeds the limit)
InvalidDescription.Malformed	The specified description is wrongly formed.	400	Invalid Description value
InvalidImageVersion.Malformed	The specified ImageVersion is wrongly formed.	400	Invalid ImageVersion value (or the user might not be authorized to use the snapshot)
InvalidSnapshotId.NotReady	The specified snapshot creation is not completed yet.	403	The snapshot has not been completed yet
InvalidSnapshot.TooOld	This operation is denied because the specified snapshot is created before 2013-07-15.	403	Snapshots created before July 15, 2013 cannot be used to create images
OperationDenied	The specified	403	The snapshot of a

	snapshot is not allowed to create image.		specified disk is not allowed to create the image
QuotaExceed.Image	The Image Quota exceeds.	403	The user-defined image quota has been used up
OperationDenied	The specified snapshot is not from system disk.	403	Only snapshots of the system disk can be used to create images
InvalidParamter.Conflict	The specified same token is trying to make requests with different parameters.	403	The token is inconsistent with the parameter

## Examples

### Request Example

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

### Return 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"
}
```

# Modifying image properties

## Description

Modify the name and description of a user-defined image

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyImageAttribute
RegionId	String	Yes	The RegionId of the user-defined image
ImageId	String	Yes	The ID of the user-defined image
ImageName	String	No	The name of the user-defined image, [2, 128] English or Chinese characters. It must begin with an uppercase/lowercase letter or a Chinese character, and may contain numbers, "_" or "-".It cannot begin with http:// or https://.
Description	String	No	The description of the user-defined image, with a length limit of 0 to 256 characters. Leaving it blank means null, which is the default value.It cannot begin with http:// or https://.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters].

## Error Code

Error Code	Description	Http status code	Meaning
------------	-------------	------------------	---------



MissingParameter	An input parameter <code>\RegionId\</code> that is mandatory for processing the request is not supplied.	400	RegionId value missing
MissingParameter	An input parameter <code>\ImageId\</code> that is mandatory for processing the request is not supplied.	400	ImageId value missing
InvalidImageId.NotFound	The image does not exist.	403	The specified image ID does not exist
InvalidImageName.Malformed	The specified destination Image name is wrongly formed.	400	The specified image name is invalid
InvalidDescription.Malformed	The specified destination image description is wrongly formed.	400	The specified image description is invalid
InvalidImageName.Duplicated	The destination image is exist.	400	The image name is already in use

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyImageAttribute
&ImageId=m-281234567
&RegionId=cn-qingdao
&ImageName=testImage123
&<Public Request Parameters>
```

### Return Example

XML format

```
<ModifyImageAttributeResponse>
  <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
</ModifyImageAttributeResponse>
```

JSON format

```
{
  "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9"
}
```

## Deleting a user-defined image

### Description

Delete a specified user-defined image. A deleted image cannot be used again to create or reset an ECS instance.

- If the specified image does not exist, the request will be ignored.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteImage
RegionId	String	Yes	The region ID of the image
ImageId	String	Yes	ID of an image

### Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

### Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId field missing
MissingParameter	The input parameter "ImageId" that is mandatory for processing this	400	ImageId field missing

	request is not supplied.		
InvalidRegionId.NotFound	The specified region does not exist.	404	Invalid Region value (or the user might not be authorized to use the region)
ImageUsingByInstance	The specified image has been used to create instance(s).	403	The specified image is still being used by an instance and cannot be deleted

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteImage
&RegionId=cn-hangzhou
&ImageId=m-63DFD5FB2
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

# Copying an image

## Description

Coping images allows a user to copy their user-defined images from one region to another for consistent deployment across different regions. Copied images can be used to create instances,

replace system disks and perform other operations in other regions.

- Only available user-defined images can be copied.
- Image copying is allowed only under the current account. Cross-account copying is not supported.
- If the copying is not completed, you cannot delete the image but can cancel the copying.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CopyImage
RegionId	String	Yes	The regionId of the source user-defined image
ImageId	String	Yes	The ID of the source user-defined image
DestinationRegionId	String	Yes	Copy to the destination regionId
DestinationImageName	String	No	The name of the destination image, [2, 128] English or Chinese characters. It must begin with an uppercase/lowercase letter or a Chinese character, and may contain numbers, "_" or "-".It cannot begin with http:// or https://.
DestinationDescription	String	No	The description of the destination image, with a length limit of 0 to 256 characters. Leaving it blank means null, which is the default value.It cannot begin with http:// or https://.
ClientToken	String	No	Used to ensure 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 details, refer to

			the appendix: How to Ensure Idempotence.
--	--	--	--

## Return Parameters

Name	Type	Description
ImageId	String	ID of the destination image

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	An input parameter <code>\RegionId\</code> that is mandatory for processing the request is not supplied.	400	RegionId value missing
MissingParameter	An input parameter <code>\ImageId\</code> that is mandatory for processing the request is not supplied.	400	ImageId value missing
MissingParameter	An input parameter <code>\DestinationRegionId\</code> that is mandatory for processing the request is not supplied.	400	DestinationRegionId value missing
InvalidImageId.NotFound	The image does not exist.	403	The Id of the specified source image does not exist
InvalidImageName.Malformed	The specified destination Image name is wrongly formed.	400	The name of the specified destination image is illegal
InvalidDescription.Malformed	The specified destination image description is wrongly formed.	400	The description of the specified destination image is illegal
SourceRegion.NotFound	The source region not found.	400	The regionId of the specified source image does not exist
DestinationRegion.NotFound	The destination region not found	400	The regionId of the specified source

			image does not exist
IncorrectImageStatus	The image is not available.	400	The status of the specified source image is incorrect
InvalidImageName.Duplicated	The destination image is exist.	400	The name of the destination image is already in use
QuotaExceed.Image	The Image Quota exceeds.	403	No more images will be copied as the user-defined image quota has been exceeded
QuotaExceed.Snapshot	The Snapshot Quota exceeds.	403	No more images will be copied as the snapshot quota has been exceeded.
Forbidden	User not authorized to operate on the specified resource	400	Not authorized to copy images
OperationDenied.ImageCopying	The Image is coping.	403	The specified source image is being copied, and cannot be copied again.
RegionNotSupportCopy	The region not support copy.	403	The specified regions for the destination or source image do not support image copying
IncorrectDestinationRegion	The destination region is not equal the target region.	403	The source region for coping images must not be the same as the destination region

## Examples

### Request Example

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

## Return 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"
}
```

## Canceling copying image

### *Description*

Cancel an image replication task. After the cancellation, the image status becomes "creation failed".

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CancelCopyImage
RegionId	String	Yes	The region ID of the target image
ImageId	String	Yes	The ID of the target image being replicated

### *Return Parameters*

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId field missing
MissingParameter	The input parameter "ImageId" that is mandatory for processing this request is not supplied.	400	ImageId field missing
InvalidRegionId.NotFound	The source region not found.	400	The specified regionId does not exist
InvalidImageId.NotFound	The image does not exist.	400	The specified ImageId does not exist
IncorrectImageStatus	The image has completed copy.	400	The specified image has been replicated. The cancellation failed
IncorrectImageStatus	The image is not from copied.	400	The specified image is not created by means of replication. The cancellation failed.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=CancelCopyImage
&RegionId=cn-hangzhou
&ImageId=img-2012-12-01-1300
&<Public Request Parameters>
```

### Return Example

XML format



```
<CancelCopyImageResponse>
  <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
</CancelCopyImageResponse>
```

JSON format

```
{"RequestId": "C8B26B44-0189-443E-9816-D951F59623A9"}
```

## Managing image sharing

### Description

Share a user-defined image to other Aliyun accounts, so that these accounts can use the shared image to create instances and replace system disks.

- You can share only your own user-defined images to other Aliyun accounts.
- One image can be shared to a maximum of 10 accounts at a time. A maximum of 10 accounts to which an image is shared can be deleted at a time. If the accounts are more than 10, the parameter is ignored.
- One user can obtain a maximum of 30 shared images. A white list can be configured.
- One image can be shared to a maximum of 50 users. A white list can be requested. The user-defined images of a white-listed account can be shared to more users.
- If an image owner deletes the image shared to you or deletes the sharing relation with you, your instance that has used the shared image will fail to reset the system disk.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyImageSharePermission
RegionId	String	Yes	The regionId of the user-defined image
ImageId	String	Yes	The ID of the user-defined image
AddAccount.n	String	No	The IDs of to-be-added Aliyun accounts to which the image is shared. n

			ranges from 1 to 10. If n is greater than 10, this parameter is ignored
RemoveAccount.n	String	No	The IDs of to-be-deleted Aliyun accounts to which the image is shared. n ranges from 1 to 10. If n is greater than 10, this parameter is ignored

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	An input parameter \"RegionId\" that is mandatory for processing the request is not supplied.	400	RegionId value missing
MissingParameter	An input parameter \"ImageId\" that is mandatory for processing the request is not supplied.	400	ImageId value missing
InvalidRegionId.NotFound	The specified region does not exist.	400	The specified RegionId does not exist
InvalidImageId.NotFound	The specified Image does not exist or not you owner.	403	The specified image ID does not exist
IncorrectImageStatus	The image is not available.	400	The specified image status is incorrect
InvalidAccount.NotFound	The specified parameter \"AddAccount.n\" or \"RemoveAccount.n\" does not exist.	404	The specified account does not exist
QuotaExceed.ShareImage	The share Image Quota exceeds.	403	The user-defined image sharing quota has been exceeded

QuotaExceed.ShareImageUser	The shared image user quota exceeds.	403	The number of users to which one image is shared has exceeded the limit
InvalidAccount.Forbidden	The specified account does not yourself.	404	The image of one cannot be shared to oneself

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyImageSharePermission
&RegionId=cn-hangzhou
&ImageId=m-281234567
&AddAccount.1=23412345234
&<Public Request Parameters>
```

### Return Example

XML format

```
<ModifyImageSharePermissionResponse>
  <RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
</ModifyImageSharePermissionResponse>
```

JSON format

```
{
  "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9"
}
```

## Querying the list of image sharing accounts

### Description

List users to which a user-defined image is shared. This interface supports querying by page. By default, 10 results are displayed per page.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeImageSharePermission
RegionId	String	Yes	The RegionID of the image
ImageId	String	No	ID of an image
PageNumber	Integer	No	The page number of the list. The start value is 1. The default value is 1
PageSize	Integer	No	Sets the number of lines per page for queries per page. The maximum value is 50. The default value is 10

## Return Parameters

Name	Type	Description
ImageId	String	The ID of the image
RegionId	String	The region ID of the image
ShareGroups	ShareGroupType	The type of the shared group
Accounts	AccountType	The type of the Aliyun account
TotalCount	Integer	The total number of records
PageNumber	Integer	The page number
PageSize	Integer	Maximum number of lines per page. The default value is 10 and the maximum value is 50

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The source region not found.	404	The specified regionId does not exist
InvalidImageId.NotFound	The image does not exist.	404	The specified ImageId does not

			exist
IncorrectImageStatus	The image has completed copy.	400	The specified image has been replicated. The cancellation failed
IncorrectImageStatus	The image is not from copied.	400	The specified image is not created by means of replication. The cancellation failed.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeImageSharePermission
&RegionId=cn-qingdao
&ImageId=m-282dzntc7
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeImageSharePermissionResponse>
  <ImageId>m-282dzntc7</ImageId>
  <PageNumber>1</PageNumber>
  <PageSize>10</PageSize>
  <RegionId>cn-qingdao</RegionId>
  <TotalCount>1</TotalCount>
  <RequestId>441CF898-42FF-47CF-9348-3C3BFF557278</RequestId>
  <ShareGroups>
    <ShareGroup>
      <Group>all</Group>
    </ShareGroup>
  </ShareGroups>
  <Accounts>
    <Account>
      <AliyunId>1886508529898586</AliyunId>
    </Account>
  </Accounts>
</DescribeImageSharePermissionResponse>
```

JSON format

```

{
  "ShareGroups": {
    "ShareGroup": [
      {
        "Group": "all"
      }
    ]
  },
  "Accounts": {
    "Account": [
      {
        "AliyunId": "1886508529898586"
      }
    ]
  },
  "ImageId": "m-282dzntc7",
  "PageNumber": 1,
  "PageSize": 10,
  "RegionId": "cn-qingdao",
  "TotalCount": 1,
  "RequestId": "9AD96F49-0BE5-4868-A66A-224352549CEC"
}

```

## Network Related Interfaces

### Allocating public IP addresses

#### *Description*

Assign an available public network IP address to a given instance.

- This interface can be invoked only when the instance is in Running or Stopped state.
- The allocated IP address takes effect only after the instance is started or restarted.
- You can only assign an IP, not an IP segment.
- At present, only one IP address can be allocated to one instance. When the interface is invoked, if the instance already has a public IP address, the original IP address is directly returned.
- If 'OperationLocks' of the instance indicates "LockReason": "security", the public IP address cannot be assigned.

#### *Request Parameters*

Name	Type	Required?	Description
------	------	-----------	-------------

Action	String	Yes	Required parameter, with a value:AllocatePublicIp Address
InstanceId	String	Yes	The ID of the instance to be assigned an IP address

## Return Parameters

Name	Type	Description
IpAddress	String	The assigned public IP address

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because the resource is locked for security reasons
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The instance expires (on yearly or monthly basis) or is in arrears (based on traffic)
IpInUse	The specified IP is already in use.	403	When the user tries to bind the specified IP address, it is found that the specified IP address is already in use

			elsewhere
AllocatedAlready	There is an IpAddress allocated already for the specified instance.	403	When the user tries to bind the specified IP address, it is found that another IP address has been assigned to the instance

## Examples

### Request Example

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

### Return 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"
}
```

# Modifying network specifications of an instance

## Description

Modify the bandwidth configuration of an instance. When the existing network specification of an



instance does not meet requirements, this interface can be used to modify the network specification of the instance to improve network performance. After the modification, the expenses billed for the instance may be affected.

- Only explicitly specified parameters are modified. Unspecified parameters are not modified.
- The parameters "InternetMaxBandwidthIn" and "InternetMaxBandwidthOut" can be changed only when the instance is in Stopped or Running status.
- If 'OperationLocks' of the instance indicates "LockReason": "security", the network specification of the instance cannot be modified.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyInstanceNetworkSpec
InstanceId	String	Yes	The specified ID of the instance which requires an instance type
InternetMaxBandwidthOut	Integer	No	The maximum outgoing bandwidth to the public network, measured in Mbps. PayByBandwidth:0 ~ 100 PayByTraffic:1 ~ 100 Default value: None, indicates that the original bandwidth is retained
InternetMaxBandwidthIn	Integer	No	The maximum incoming bandwidth from the public network, measured in Mbps. PayByBandwidth:1 ~ 200 PayByTraffic:1 ~ 200 Default value: None, indicates that the original bandwidth is retained

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidParameter	The specified parameter "InternetMaxBandwidthIn" is not valid.	400	The specified InternetMaxBandwidthIn is invalid (not a number)
InvalidInternetMaxBandwidthIn.ValueNotSupported	The specified InternetMaxBandwidthIn beyond the permitted range.	400	The specified InternetMaxBandwidthIn is invalid (exceeds the range)
InvalidParameter	The specified parameter "InternetMaxBandwidthOut" is not valid.	400	The specified InternetMaxBandwidthOut is invalid (not a number)
InvalidInternetMaxBandwidthOut.ValueNotSupported	The specified InternetMaxBandwidthOut beyond the permitted range.	400	The specified InternetMaxBandwidthOut is invalid (exceeds the range)
IncorrectInstanceStatus	The current status of the resource does not support this operation.	403	The current status of the resource does not support this operation
InstanceLockedForSecurity	The specified operation is denied as your instance is locked for security reasons.	403	The operation is denied because the resource is locked for security reasons
InstanceExpiredOrInArrears	The specified operation is denied as your prepay instance is expired (prepay mode) or in arrears (afterpay mode).	403	The instance cannot be started because the account balance is not enough or the instance is in arrears
InternalError	The request processing has failed due to some unknown error.	500	Internal error

ChargeTypeViolation	The operation is not permitted due to charge type of the instance.	403	The charge type of the instance does not support this operation
---------------------	--	-----	---

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyInstanceNetworkSpec
&InstanceId=i-23nn22421
&InternetMaxBandwidthOut=20
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Requesting EIPs

### Description

Request an EIP, which is in Available status.

- At present, an EIP can be bound only to a VPC ECS instance in the same region.
- Upon each request, an EIP is randomly allocated in the specified region.
- At present, only ICMP, TCP, and UDP EIPs are supported. Transport layer EIPs, such as IGMP EIP and SCTP EIP, are not supported.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:AllocateEipAddress
RegionId	String	Yes	The ID of the region to which the requested EIP belongs
Bandwidth	String	No	The rate limit of the EIP. If not specified, it is 5Mbps by default.
InternetChargeType	String	No	PayByBandwidth and PayByTraffic. The default value is PayByBandwidth.
ClientToken	String	No	Used to ensure 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 details, refer to the appendix.

## Return Parameters

Name	Type	Description
EipAddress	String	The assigned EIP
AllocationId	String	The instance ID of the EIP

## Error Code

Error Code	Description	Http status code	Meaning
Forbidden	User not authorized to operate on the specified resource.	403	The user is not authorized to use EIPs. Please submit a work order to request the authorization
QuotaExceeded.Eip	Elastic IP address	400	The number of EIPs

	quota exceeded.		has exceeded the quota
InvalidRegionId.NotFound	Specified value of "RegionId" is not supported.	404	The specified RegionId does not exist
InvalidParameter	Specified value of "InternetChargeType" is not valid	400	The specified InternetChargeType parameter is invalid
InvalidParameter	Specified value of "Bandwidth" is not valid	400	The specified Bandwidth parameter is invalid
InsufficientEipCapacity	Insufficient EIP capacity to fulfill your request.	500	The EIPs in the specified region are not enough
InsufficientBalance	Your account does not have enough balance.	400	The EIP cannot be requested because your account balance is not enough

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=AllocateEipAddress
&RegionId=cn-beijing
&<Public Request Parameters>
```

### Return Example

XML format

```
<AllocationId>eip-25877c70x</AllocationId>
<EipAddress>123.56.0.206</EipAddress>
<RequestId>B6B9F518-60F8-4D81-9242-1207B356754D</RequestId>
```

JSON format

```
{
  "AllocationId": "eip-25877c70x",
  "EipAddress": "123.56.0.206",
  "RequestId": "B6B9F518-60F8-4D81-9242-1207B356754D"
```

```
}

```

## Binding EIPs

### *Description*

Bind an EIP to an ECS instance in the same region

- At present, an EIP can be bound only to an ECS instance.
- Only an EIP in Available status can be bound.
- An EIP takes effect immediately after it is bound to an ECS instance. You do not need to restart the ECS instance.
- At present, an EIP can be bound only to a VPC ECS instance in the same region.
- Each ECS instance can be bound with only one EIP at a time.
- One EIP can be bound to only one ECS instance at a time.
- Only an ECS instance in Running or Stopped status can be bound with an EIP.
- An EIP that is locked for security reasons cannot be bound or unbound.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:AssociateEipAddress
AllocationId	String	Yes	The allocation ID of the EIP to be bound. The allocation ID uniquely identifies the EIP.
InstanceId	String	Yes	The ID of the ECS instance to be bound

### *Return Parameters*

All are public return parameters. For details, see [Public Return Parameters](#)

### *Error Code*

Error Code	Description	Http status code	Meaning
------------	-------------	------------------	---------

InvalidAssociation.Duplicated	Specified instance already is associated.	400	The specified ECS instance has been bound with an EIP.
OperationDenied	Specified instance is not in VPC.	400	The binding failed because the specified ECS instance is not a VPC instance.
InvalidParameter.Mismatch	Specified elastic IP address and ECS instance are not in the same region.	400	The specified ECS instance and the EIP are not in the same region
IncorrectEipStatus	Current elastic IP status does not support this operation.	400	The specified EIP status does not support this operation
InvalidAllocationId.NotFound	Specified allocation ID is not found.	404	The binding failed because the specified allocation ID of the EIP does not exist
InvalidInstanceId.NotFound	Specified instance does not exist.	404	The binding failed because the specified ECS instance does not exist
IncorrectInstanceStatus	Current instance status does not support this operation.	400	The binding failed because the specified ECS instance is not in Stopped or Running status

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=AssociateEipAddress
&AllocationId=eip-25877c70x
&InstanceId=i-25skktcp4
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

```
{"RequestId":"C0FD0EED-F90D-4479-803D-DD62335357E5"}
```

## Querying the list of EIPs

### Description

Query the list of EIPs in a specified region. This interface supports querying by page, with 10 lines per page by default.

- This interface will not verify the dependency between parameters. The return results are the "intersection" of all criteria.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeEipAddresses
RegionId	String	Yes	The ID of the region to be queried
Status	String	No	The EIP status, which can be Associating, Unassociating, InUse, or Available
EipAddress	String	No	EIP
AllocationId	String	No	The allocation ID
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50



			and default value is 10
--	--	--	-------------------------

## Return Parameters

Name	Type	Description
EipAddresses	EipAddressSetType	A collection of EIP details EipAddressSetType
TotalCount	Integer	The number of items on the list
PageNumber	Integer	The current page
PageSize	Integer	The number of items on the current page

## Error Code

Error Code	Description	Http status code	Meaning
Forbidden.RegionNotFound	Specified region is not found during access authentication.	404	The specified region does not exist

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeEipAddresses
&RegionId=cn-hangzhou-1
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeEipAddresses>
  <RequestId>51BE7822-4121-428A-88F3-262AE4FD868D</RequestId>
  <EipAddresses>
    <EipAddress>
      <RegionId>cn-beijing</RegionId>
      <AllocationId> eip-2578g5v5a </AllocationId>
```

```

    <IpAddress>123.56.0.36</IpAddress>
    <Status>Available</Status>
    <OperationLocks>
      <LockReason></LockReason>
    </OperationLocks>
    <Bandwidth>5</Bandwidth>
    <InternetChargeType>PayByBandwidth</InternetChargeType>
    <AllocationTime>2014-05-28T03:03:16Z</AllocationTime>
  </EipAddress>
</EipAddresses>
</DescribeEipAddresses>

```

JSON format

```

{
  "EipAddresses": {
    "EipAddress": [
      {
        "AllocationId": "eip-2578g5v5a",
        "AllocationTime": "2014-05-28T03:03:16Z ",
        "Bandwidth": "1",
        "InstanceId": "",
        "InternetChargeType": " PayByBandwidth ",
        "IpAddress": "123.56.0.36",
        "OperationLocks": {
          "LockReason": []
        },
        "RegionId": "cn-beijing",
        "Status": "Available"
      }
    ]
  },
  "PageNumber": 1,
  "PageSize": 10,
  "RequestId": "51BE7822-4121-428A-88F3-262AE4FD868D",
  "TotalCount": 1
}

```

## Modifying EIP attributes

### *Description*

Modify the attribute of a specified EIP. At present, this interface is mainly used to modify the bandwidth of the EIP.

- The bandwidth limit of an EIP can be modified infinitely, and the new setting takes effect immediately.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyEipAddressAttribute
AllocationId	String	Yes	The allocation ID
Bandwidth	String	Yes	Modified bandwidth of the EIP, measured in Mbps.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidParameter	Specified value of "Bandwidth" is not supported.	400	The specified Bandwidth value is invalid
InsufficientBalance	Your account does not have enough balance.	400	Modifying the bandwidth of the EIP failed because your account balance is not enough
InvalidAllocationId.NotFound	Specified allocation ID is not found.	404	The specified allocation ID of the EIP does not exist

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyEipAddressAttribute
&AllocationId=eip-25877c70x
&Bandwidth=1
&<Public Request Parameters>
```

## Return Example

XML format

```
<ModifyEipAddressAttribute>
  <RequestId>2C63EA73-A1E7-4C46-B8BC-E7C2E543E5E8</RequestId>
</ModifyEipAddressAttribute>
```

JSON format

```
{
  "RequestId": "2C63EA73-A1E7-4C46-B8BC-E7C2E543E5E8"
}
```

## Unbinding EIPs

### *Description*

Unbind an EIP.

- The EIP can be unbound only when the ECS instance is in Running or Stopped status.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:UnassociateEipAddress
AllocationId	String	Yes	The instance ID of the EIP
InstanceId	String	Yes	The ID of an ECS instance

### *Return Parameters*

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
IncorrectEipStatus	Current elastic IP status does not support this operation.	400	The current status of the specified EIP does not support unbinding.
InvalidAllocationId.NotFound	Specified allocation ID is not found.	404	The unbinding failed because the specified allocation ID of the EIP does not exist
InvalidInstanceId.NotFound	Specified instance does not exist.	400	The unbinding failed because the specified ECS instance does not exist.
IncorrectInstanceStatus	The current status of instance does not support this operation.	400	The unbinding failed because the current status of the specified ECS instance does not support this operation.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=UnassociateEipAddress
&AllocationId=eip-2578g5v5a
&InstanceId=i-25skktcp4
&<Public Request Parameters>
```

### Return Example

XML format

```
<UnassociateEipAddressResponse>
  <RequestId>220F3179-5238-47F0-A0CA-1272AA2BC41F </RequestId>
</UnassociateEipAddressResponse>
```

JSON format

```
{
  "RequestId": "220F3179-5238-47F0-A0CA-1272AA2BC41F"
}
```

## Releasing EIPs

### Description

Release an EIP. The user no longer possesses the released EIP.

- Only an EIP in Available status can be released.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ReleaseEipAddress
AllocationId	String	Yes	The allocation ID of the EIP to be released

### Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

### Error Code

Error Code	Description	Http status code	Meaning
IncorrectEipStatus	Current elastic IP status does not support this operation.	400	The specified EIP cannot be released because the current status of the specified EIP does not support this operation.

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ReleaseEipAddress
&AllocationId=eip-25877c70x
&<Public Request Parameters>
```

### Return Example

XML format

```
<ReleaseEipAddressResponse>
  <RequestId>748C38F6-9A3D-482E-83FB-DB6C39C68AEA</RequestId>
</ReleaseEipAddressResponse>
```

JSON format

```
{
  "RequestId": "748C38F6-9A3D-482E-83FB-DB6C39C68AEA"
}
```

## Security Group Related Interfaces

### Creating a security group

#### *Description*

Create a new security group, and configure the firewall for a group of instances by configuring security group firewall rules. One security group can contain multiple instances.

- For a newly created security group, only the access permission for instances inside the same group is enabled, and the access permissions to others are disabled. If you permit access from instances in other groups or from the Internet, you can use the interface for granting

- security group permissions to modify the security group firewall rules.
- Firewall rules are differentiated between the intranet and the internet.
- A maximum of 100 security groups can be created for one user.
- VpcId must be specified before a VPC security group is created.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CreateSecurityGroup
RegionId	String	Yes	The ID of the region to which the security group belongs
SecurityGroupName	String	No	The security group name. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, ".", "_" or "-". It cannot begin with http:// or https://.
Description	String	No	The description of the security group, which is a string of 2 to 256 characters.It cannot begin with http:// or https://.
VpcId	String	No	The ID of the VPC to which the security group belongs
ClientToken	String	No	Used to ensure 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 details, refer to the appendix: How to Ensure Idempotence.



## Return Parameters

Name	Type	Description
SecurityGroupId	String	The ID of the security group

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId value missing (or the user might not be authorized to use the region)
InvalidSecurityGroupName.Malformed	Specified security group name is not valid.	400	The specified SecurityGroupName format is invalid
InvalidDescription.Malformed	The specified parameter "Description" is not valid.	400	The specified DescriptionName format is illegal
QuotaExceed.SecurityGroup	The security group quota exceeds.	403	The number of security groups has exceeded the quota
InvalidVpcId.NotFound	Specified VPC does not exist.	403	The specified VPC does not exist

## Examples

### Request Example

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

## Return 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"
}
```

# Authorizing the security group's In direction access permissions

## *Description*

Set the security group's In direction access permissions.

- Supported authorization policies include: 'accept' and 'drop' .
- Different network types can be supported. For example, 'NicType' can be set to 'internet' or 'intranet' .
- A maximum of 100 authorization rules can be set on one security group.
- The security group priorities are sorted by creation time in descending order.
- The rule priority ranges from 1 to 100. The default value is 1, which is the highest priority. A greater value indicates a lower priority.
- If the priorities of the authorization rules are the same, drop rules take precedence.
- Inter-group authorization can be performed only in the intranet. Therefore, you can only set "NicType" to "intranet" .
- The security group rules contain one of the two sets of optional parameters: 'SourceGroupOwnerAccount' , 'SourceGroupId' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' , or 'SourceCidrIp' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' . An error will be reported if the matching rule already exists.

Two authorization methods are supported: 1. Open access permission for another security group in the same region (Classic)/the same VPC (cross-account authorization is permitted). 2. Grant access permission for the specified IP address range (CIDR format)

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:AuthorizeSecurityGroup
SecurityGroupId	String	Yes	The ID of the target security group
RegionId	String	Yes	Target security group' s region ID
IpProtocol	String	Yes	IP protocol, with a value:tcp   udp   icmp   gre   all; all indicates support for all the four protocols
PortRange	String	Yes	The range of port numbers relevant to the IP protocol <ul style="list-style-type: none"> <li>- When the protocol is "tcp" or "udp" , the default port number range is 1-65535. For example, "1/200" means that the range of the port numbers is 1-200. If the input value is: "200/1" , the interface call reports an error.</li> </ul>

			<ul style="list-style-type: none"> <li>- When the protocol is "icmp" , the port number range is -1/-1.</li> <li>- When the protocol is "gre" , the port number range is -1/-1.</li> <li>- When the protocol is all the port number range is -1/-1.</li> </ul>
SourceGroupId	String	No	The source security group ID. Either the SourceGroupId or SourceCidrIp parameter must be set. If both are set, then SourceCidrIp is authorized by default. If SourceGroupId is specified and SourceCidrIp is not specified, NicType must be set to intranet
SourceGroupOwner Id	String	No	The AliCloud account Id of the source security group when security groups are authorized across accounts. This parameter is optional. If it is not set, then authorization is performed for security groups of the same account. This parameter is invalid if SourceCidrIp has already been set.
SourceCidrIp	String	No	The source IP address

			range (CIDR format is used to specify the IP address range). The default value is 0.0.0.0/0 (which means no restriction will be applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	String	No	Authorization policy, with parameter values: 'accept' and 'drop' Default value: accept
Priority	String	No	Authorization policy priority, with parameter values: 1-100 Default value: 1
NicType	String	No	Network type, with a value <ul style="list-style-type: none"> <li>- internet</li> <li>- intranet;</li> </ul> <p>The default value is internet In mutual security group authorization (namely, SourceGroupId is specified, while SourceCidrIp is not specified), you must specify the NicType as intranet</p>

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter	400	The RegionId

	"RegionId" that is mandatory for processing this request is not supplied.		parameter is not specified
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	The SecurityGroupId parameter is not specified
OperationDenied	The specified IpProtocol does not exist or IpProtocol and PortRange do not match.	400	The IP protocol does not exist or the IP protocol does not match the port
MissingParameter	The input parameter "IpProtocol" that is mandatory for processing this request is not supplied.	400	The IpProtocol parameter is not specified
InvalidIpProtocol.Malformed	The specified parameter "PortRange" is not valid.	400	The IpProtocol format is incorrect
InvalidPriority.Malformed	The specified parameter "Priority" is not valid.	400	The format of the Priority parameter is incorrect
MissingParameter	The input parameter "PortRange" that is mandatory for processing this request is not supplied.	400	The PortRange parameter is not specified
InvalidSourceGroupId.Mismatch	NicType is required or NicType expects intranet.	403	You must specify the NicType parameter or the NicType must be set to intranet
InvalidSourceCidrIp.Malformed	The specified parameter "SourceCidrIp" is not valid.	400	The SourceCidrIp parameter format is incorrect
MissingParameter	The input parameter "SourceGroupId" or "SourceCidrIp" cannot be both	403	The SourceGroupId or SourceCidrIp parameter is not specified

	blank.		
InvalidPolicy.Malformed	The specified parameter "Policy" is not valid.	400	The format of the Policy parameter is incorrect
InvalidNicType.ValueNotSupported	The specified NicType does not exist.	400	The specified NicType value is not supported
AuthorizationLimitExceed	The limit of Authorization in one security group reaches.	403	The number of security group authorization rules has reached the limit
InvalidParamter.Conflict	The specified SecurityGroupId should be different from the SourceGroupId.	403	The SecurityGroupId and SourceGroupId are set as the same security group
InvalidSourceGroupId.Mismatch	SourceGroupOwner UserAccount is required.	403	Another user' s SourceGroup is specified, but the SourceGroupOwner UserAccount is not
InvalidSourceGroupId.Mismatch	Specified security group and source group are not in the same VPC.	403	The specified security group and source security group do not belong to the same VPC
InvalidSourceGroupOwnerUserAccount.Mismatch	The specified SourceGroupId is not belong to the SourceGroupOwner UserAccount	403	The specified SourceGroup does not belong to the user specified in SourceGroupOwner UserAccount
InvalidSourceGroupId.NotFound	The SourceGroupId provided does not exist in our records.	404	The specified SourceGroupId cannot be found

## Examples

### Request Example

Authorize access permissions to other security groups.

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroup
&SecurityGroupId=sg-F876FF7BA
```

```
&SourceGroupId=sg-1651FBB64
&SourceGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

Grant access permissions for specified network segment/IP address

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroup
&SecurityGroupId=sg-F876FF7BA
&SourceCidrIp=0.0.0.0/0
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

## Return Example

XML format

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

JSON format

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

1. And that' s the footnote

# Querying security group rules

## *Description*

Query security group to retrieve security permissions and details.

## *Request Parameters*

Name	Type	Required?	Description
------	------	-----------	-------------



Action	String	Yes	Required parameter, with a value: DescribeSecurityGroupAttribute
SecurityGroupId	String	Yes	Target security group ID
RegionId	String	Yes	Target security group's region ID
NicType	String	No	Network type, with a value: internet   intranet, the default value is internet

## Return Parameters

Name	Type	Description
SecurityGroupId	String	Target security group ID
SecurityGroupName	String	Target security group name
RegionId	String	The region ID
Description	String	The security group description
Permissions	PermissionType	Composed of a PermissionType collection, indicates the permission rules in the security group
VpcId	String	The VpcId. If there is one, it indicates that this is a VPC-type security group. If not, it is a security group in classic Internet.

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId cannot be found or you do not have permission to use it
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not	404	The specified SecurityGroupId

	exist in our records.		cannot be found
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	The SecurityGroupId parameter is not specified
InvalidNicType.ValueNotSupported	The specified NicType does not exist.	400	The specified NicType value is not supported

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeSecurityGroupAttribute
&SecurityGroupId=sg-F876FF7BA
&RegionId=cn-hangzhou
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeSecurityGroupAttributeResponse>
  <RequestId>1651FBB6-4FBF-49FF-A9F5-DF5D696C7EC6</RequestId>
  <RegionId>cn-hangzhou</RegionId>
  <SecurityGroupId>C0003E8B-B930-4F59-ADC0-0E209A9012B0</SecurityGroupId>
  <Description>for demo</Description>
  <Permissions>
    <Permission>
      <IpProtocol>ALL</IpProtocol>
      <PortRange>-1/-1</PortRange>
    </Permission>
    <Permission>
      <IpProtocol>tcp</IpProtocol>
      <PortRange>1/65535</PortRange>
      <SourceCidrIp>0.0.0.0/0</SourceCidrIp>
      <Policy>accept</Policy>
      <NicType>internet</NicType>
    </Permission>
  </Permissions>
  <SourceGroupId>8dsmf982</SourceGroupId>
  <SourceGroupOwnerAccount>test@aliyun.com</SourceGroupOwnerAccount>
  <Policy>Accept</Policy>
  <NicType>intranet</NicType>
</DescribeSecurityGroupAttributeResponse>
```

JSON format

```
{
  "RequestId": "1651FBB6-4FBF-49FF-A9F5-DF5D696C7EC6",
  "RegionId": "cn-hangzhou",
  "SecurityGroupId": "C0003E8B-B930-4F59-ADC0-0E209A9012B0",
  "Description": "for demo",
  "Permissions": {
    "Permission": [{
      "IpProtocol": "ALL",
      "PortRange": "-1/-1",
      "SourceGroupId": "8dsmf982",
      "SourceGroupOwnerAccount": "test@aliyun.com",
      "Policy": "Accept",
      "NicType": "intranet"
    }],
    {
      "IpProtocol": "tcp",
      "PortRange": "1/65535",
      "SourceCidrIp": "0.0.0.0/0",
      "Policy": "accept",
      "NicType": "internet"
    }
  ]
}
```

## Querying the security group list

### *Description*

Query by page returns the basic information about all user-defined security groups. Each page contains 10 entries by default and the data is listed in descending order by security group ID.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeSecurity Groups
RegionId	String	Yes	The region
VpcId	String	No	The ID of the VPC to which the security group belongs

PageNumber	Integer	No	Current page, the start value is 1 and the default value is 1
PageSize	Integer	No	Sets the number of lines per page for paging query. The maximum value is 50 and default value is 10

## Return Parameters

Name	Type	Description
TotalCount	Integer	The total number of security groups
PageNumber	Integer	The current page
PageSize	Integer	The number of lines per page
RegionId	String	The region ID of the security group
SecurityGroups	SecurityGroupItemType	The security group information, composed by a SecurityGroupItemType collection

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not 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

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeSecurityGroups
&RegionId=cn-hangzhou
&<Public 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"
  }
]
}
}

```

## Canceling a security group authorization rule

### *Description*

Two authorization methods are supported to revoke a security group access permission: one approach is to revoke the authorization rules that other security groups within the same region (classic internet) or VPC have granted by using the assigned agreement through the assigned ports; the other approach is to revoke the authorization for IP network segments for accessing this security group by using the assigned agreement through the assigned ports.

Note: only authorization rules granted by the called authorization interface can be deleted (the parameter values are the same as during authorization).

The security group rules are constructed by one of the two sets of optional parameters:

'SourceGroupOwnerAccount' , 'SourceGroupId' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' or 'SourceCidrIp' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' . An error will be reported if the matching rule cannot be found.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:RevokeSecurityGroup
SecurityGroupId	String	Yes	Target security group ID
RegionId	String	Yes	Target security group' s region ID

IpProtocol	String	Yes	IP protocol, with a value:tcp   udp   icmp   gre   all; all indicates support for all the four protocols
PortRange	String	Yes	<p>The range of port numbers relevant to the IP protocol</p> <ul style="list-style-type: none"> <li>- When the protocol is tcp or udp, the default port number range is 1-65535. For example, "1/200" means that the range of the port numbers is 1-200. If the input value is: "200/1" , the interface call reports an error.</li> <li>- When the protocol is icmp, the port number range is -1/-1.</li> <li>- When the protocol is gre, the port number range is -1/-1.</li> <li>- When the protocol is all the port number</li> </ul>

			range is -1/-1.
SourceGroupId	String	No	The source security group ID. Either the SourceGroupId or SourceCidrIp parameter must be set. If both are set, then SourceCidrIp is authorized by default. Multiple groups (10 at maximum) can be specified simultaneously, but have to be separated by a comma “,”
SourceGroupOwner Id	String	No	The AliCloud user account Id of the source security group when security group rules are revoked across accounts. This parameter is optional. If it is not set, then revocation is performed for security groups of the same account by default. This parameter is invalid if SourceCidrIp has already been set.
SourceCidrIp	String	No	The source IP address range (CIDR format is used to specify the IP address range). The default value is 0.0.0.0/0 (which means no restriction will be applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	String	No	Authorization policy, with parameter values: ‘accept’ and ‘drop’ Default value:accept
Priority	String	No	Authorization policy priority, with parameter values:1-100



			Default value:1
NicType	String	No	<p>Network type, with a value:</p> <ul style="list-style-type: none"> <li>- internet</li> <li>- intranet.</li> </ul> <p>The default value is internet In mutual security group authorization (namely, SourceGroupId is specified, while SourceCidrIp is not), you must specify the NicType as intranet</p>

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	The SecurityGroupId parameter is not specified
InvalidIpProtocol.ValueNotSupported	The specified IpProtocol does not exist.	400	The specified IpProtocol parameter value is not supported
MissingParameter	The input parameter "IpProtocol" that	400	The IpProtocol parameter is not

	is mandatory for processing this request is not supplied.		specified
InvalidPriority.Malformed	The specified parameter "Priority" is not valid.	400	The format of the Priority parameter is incorrect
InvalidIpPortRange.Malformed	The specified parameter "PortRange" is not valid.	400	The format of PortRange is incorrect
MissingParameter	The input parameter "PortRange" that is mandatory for processing this request is not supplied.	400	The PortRange parameter is not specified
InvalidSourceGroupId.NotFound	The SourceGroupId provided does not exist in our records.	404	The specified SourceGroupId does not exist
InvalidSourceGroupId.Mismatch	NicType is required or NicType expects intrnet.	403	You must specify the NicType parameter or the NicType must be set to intranet
InvalidSourceCidrIp.Malformed	The specified parameter "SourceCidrIp" is not valid.	400	The SourceCidrIp parameter format is incorrect
MissingParameter	The input parameter "SourceGroupId" or "SourceCidrIp" cannot be both blank.	400	The SourceGroupId or SourceCidrIp parameter is not specified
InvalidPolicy.Malformed	The specified parameter "Policy" is not valid.	400	The format of the Policy parameter is incorrect
InvalidNicType.ValueNotSupported	The specified NicType does not exist.	400	The specified NicType value is not supported
InvalidSourceGroupId.Mismatch	SourceGroupOwner Account is required	403	Another user's SourceGroup is specified, but the SourceGroupOwner UserAccount is not
InvalidSourceGroupOwnerUserAccount.Mismatch	The specified SourceGroupId is not belong to the SourceGroupOwner	403	The specified SourceGroup does not belong to the user specified in

	Account		SourceGroupOwner UserAccount
--	---------	--	---------------------------------

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroup
&SecurityGroupId=C0003E8B-B930-4F59-ADC0-0E209A9012B0
&SourceGroupId=sg-F876FF7BA
&SourceGroupOwnerAccount=test@aliyun.com
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Deleting a security group

### Description

Delete a specified security group.

- A security group can be deleted only when it is no attached to any instance or when the group is not referenced by a security rule of any other group.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteSecurityGroup
SecurityGroupId	String	Yes	The ID of the security group
RegionId	String	Yes	The region ID

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist or is unauthorized
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	The SecurityGroupId parameter is not specified
DependencyViolation	There is still instance(s) in the specified security group.	403	The specified security group still contains an instance
DependencyViolation	The specified security group has been authorized in another one of this user account	403	The specified security group is authorized by another security group of this user
DependencyViolation	The specified security group has	403	The specified security group is

	been authorized in another one of another user account		authorized by another security group of another user
--	--	--	--

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteSecurityGroup
&SecurityGroupId=sg-F876FF7BA
&RegionId=cn-hangzhou
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

# Modifying security group properties

## Description

Modifies the properties of the specified security group, including the security group name and description.

## Request Parameters

Name	Type	Required?	Description
------	------	-----------	-------------

Action	String	Yes	Required parameter, with a value:ModifySecurityGroupAttribute
RegionId	String	Yes	The region ID
SecurityGroupId	String	Yes	The ID of the security group
SecurityGroupName	String	No	The security group name. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, ".", "_" or "-". It cannot begin with http:// or https://.
Description	String	No	The description of the security group, which is a string of 2 to 256 characters.It cannot begin with http:// or https://.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this	400	The SecurityGroupId parameter is not specified

	request is not supplied.		
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist or is unauthorized
InvalidSecurityGroupName.Malformed	Specified security group name is not valid.	400	The specified SecurityGroupName format is invalid
InvalidDescription.Malformed	The specified parameter "Description" is not valid.	400	The specified DescriptionName format is invalid

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifySecurityGroupAttribute
&SecurityGroupId=sg-F876FF7BA
&RegionId=cn-hangzhou
&SecurityGroupName=NewName
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Adding Out direction access rules of a

# security group

## Description

Sets the security group's Out direction access permissions.

- Supported authorization policies include: 'accept' and 'drop' .
- Different network types can be supported. For example, 'NicType' can be set to 'internet' or 'intranet' .
- A maximum of 100 authorization rules can be set for one security group.
- The security group priorities are sorted by creation time in descending order.
- Inter-group authorization can be performed only in the intranet. Therefore, you can only set "NicType" to "intranet" .
- The rule priority ranges from 1 to 100. The default value is 1, which is the highest priority. A greater value indicates a lower priority.
- If the priorities of the authorization rules are the same, drop rules take precedence.
- The security group rules contain one of the two sets of optional parameters: 'DestGroupOwnerAccount' , 'DestGroupId' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' or 'DestCidrIp' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' . An error will be reported if the matching rule already exists.

Two authorization methods are supported: 1. Open access permission for another security group in the same region (cross-user authorization is permitted). 2. Open access permission for the specified IP address range (CIDR format)

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:AuthorizeSecurityGroupEgress
SecurityGroupId	String	Yes	Source security group ID
RegionId	String	Yes	Source security group's region ID
IpProtocol	String	Yes	IP protocol, with a value:tcp   udp   icmp   gre   all; all indicates support for all the four protocols
PortRange	String	Yes	The range of port numbers relevant to



			<p>the IP protocol</p> <ul style="list-style-type: none"> <li>- When the protocol is tcp or udp, the default port number range is 1-65535. For example, "1/200" means that the range of the port numbers is 1-200. If the input value is: "200/1" , the interface call reports an error.</li> <li>- When the protocol is icmp, the port number range is -1/-1.</li> <li>- When the protocol is gre, the port number range is -1/-1.</li> <li>- When the protocol is all, the port number range is -1/-1.</li> </ul>
DestGroupId	String	No	The target security group ID within the same region. Either the DestGroupId or DestCidrIp must be

			set. If both are set, then DestCidrIp is authorized by default. If this field is specified, but no DestCidrIp is specified, the NicType can only select intranet
DestGroupOwnerId	String	No	The Alibaba Cloud user account Id of the target security group when security groups are authorized across accounts. This parameter is optional. If it is not set, then authorization is performed for security groups of the same account. This parameter is invalid if DestCidrIp has already been set.
DestCidrIp	String	No	The target IP address range (CIDR format is used to specify the IP address range). The default value is 0.0.0.0/0 (which means no restriction will be applied). Other supported formats include 10.159.6.18/12. Only IPv4 is supported.
Policy	String	No	Authorization policy, with parameter values: 'accept' and 'drop' Default value: accept
Priority	String	No	Authorization policy priority, with parameter values: 1-100 Default value: 1
NicType	String	No	Network type, with a value: <ul style="list-style-type: none"> <li>- internet</li> <li>- intranet.</li> </ul> <p>The default value is internet In mutual security group authorization,</p>

			you must specify the NicType as intranet (namely, DestGroupId is specified, while DestCidrIp is not)
--	--	--	--

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	The SecurityGroupId parameter is not specified
OperationDenied	The specified IpProtocol does not exist or IpProtocol and PortRange do not match.	400	The IP protocol does not exist or the IP protocol does not match the port
MissingParameter	The input parameter "IpProtocol" that is mandatory for processing this request is not supplied.	400	The IpProtocol parameter is not specified
InvalidIpProtocol.Malformed	The specified parameter "PortRange" is not valid.	400	The IpProtocol format is incorrect
InvalidPriority.Malformed	The specified parameter	400	The format of the Priority parameter is

	"Priority" is not valid.		incorrect
MissingParameter	The input parameter "PortRange" that is mandatory for processing this request is not supplied.	400	The PortRange parameter is not specified
InvalidDestGroupId.Mismatch	NicType is required or NicType expects intrnet.	403	You must specify the NicType parameter or the NicType must be set to intranet
InvalidDestCidrIp.Malformed	The specified parameter "DestCidrIp" is not valid.	400	The format of the DestCidrIp parameter is incorrect
MissingParameter	The input parameter "DestGroupId" or "DestCidrIp" cannot be both blank.	403	The DestGroupId or DestCidrIp parameter is not specified
InvalidPolicy.Malformed	The specified parameter "Policy" is not valid.	400	The format of the Policy parameter is incorrect
InvalidNicType.ValueNotSupported	The specified NicType does not exist.	400	The specified NicType value is not supported
AuthorizationLimitExceed	The limit of Authorization in one security group reaches.	403	The number of security group authorization rules has reached the limit
InvalidParameter.Conflict	The specified SecurityGroupId should be different from the DestGroupId.	403	The SecurityGroupId and DestGroupId are set as the same security group
InvalidDestGroupId.Mismatch	DestGroupOwnerUserAccount is required.	403	Another user's DestGroup is specified, but the DestGroupOwnerUserAccount is not specified
InvalidDestGroupId.Mismatch	Specified security group and destination group are not in the same VPC.	403	The specified security group and target security group do not belong to the same VPC
InvalidDestGroupOwner	The specified	403	The specified

nerUserAccount.Mismatch	DestGroupId is not belong to the DestGroupOwnerUserAccount		DestGroup does not belong to the user specified in DestGroupOwnerUserAccount
InvalidDestGroupId.NotFound	The DestGroupId provided does not exist in our records.	404	The specified DestGroup cannot be found

## Examples

### Request Example

- Configures access permissions for other security groups

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroupEgress
&SecurityGroupId=sg-94n63e80l
&IpProtocol=all
&DestGroupId=sg-94oi1r1bp
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

- Authorize access permissions to a specified range of IP addresses.

```
https://ecs.aliyuncs.com/?Action=AuthorizeSecurityGroupEgress
&SecurityGroupId=sg-94n63e80l
&IpProtocol=all
&DestCidrIp=10.0.0.0/8
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## Canceling Out direction access rules of a security group

### Description

Two approaches are supported to revoke the outbound security group access rules: One approach is to revoke the authorization rules for other security groups which are allowed to access this security group through the specified port by adopting the specified protocol within this region (Classic network) and VPC; the other approach is to revoke the IP address range' s which are allowed to access this security group through the specified port by adopting the specified protocol.

Note: Only the rules entries authorized by calling the Authorization interface can be deleted (parameter values are the same as during authorization).

The security group rules are constructed by one of the two sets of optional parameters:

'DestGroupOwnerAccount' , 'DestGroupId' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' or 'DestCidrIp' , 'IpProtocol' , 'PortRange' , 'NicType' , 'Policy' . An error will be reported if the matching rule cannot be found.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:RevokeSecurityGroupEgress
SecurityGroupId	String	Yes	Source security group ID
RegionId	String	Yes	Source security group' s region ID
IpProtocol	String	Yes	IP protocol, with a value:tcp   udp   icmp   gre   all; all indicates support for all the four protocols
PortRange	String	Yes	The range of port numbers relevant to

			<p>the IP protocol</p> <ul style="list-style-type: none"> <li>- When the protocol is "tcp" or "udp" , the default port number range is 1-65535. For example, "1/200" means that the range of the port numbers is 1-200. If the input value is: "200/1" , the interface call reports an error.</li> <li>- When the protocol is "icmp" , the port number range is -1/-1.</li> <li>- When the protocol is "gre" , the port number range is -1/-1.</li> <li>- When the protocol is "all" , the port number range is -1/-1.</li> </ul>
DestGroupId	String	No	The authorized destination security group within the same region. Either the

			SourceGroupId or SourceCidrIp parameter must be set. If both are set, then SourceCidrIp is authorized by default. Multiple groups (10 at maximum) can be specified simultaneously, but have to be separated by a comma ","
DestGroupOwnerId	String	No	The Alibaba Cloud user account Id of the destination security group on which you want security group rules to be revoked across accounts. This parameter is optional. If it is not set, then revocation is performed for security groups of the same account by default. This parameter is invalid if DestCidrIp has already been set.
DestCidrIp	String	No	The authorized destination IP address range (CIDR format is used to specify the IP address range). The default value is 0.0.0.0/0 (which means no restriction will be applied). Other supported formats include 10.159.6.18/12 or 10.159.6.186
Policy	String	No	Authorization policy, with parameter values: 'accept' and 'drop' Default value: accept
Priority	String	No	Authorization policy priority, with parameter values: 1-100 Default value: 1
NicType	String	No	Network type, with a value: - internet - intranet;



			<p>The default value is "internet"</p> <p>In mutual security group authorization, you must specify the NicType as "intranet" (namely, DestGroupId is specified, while DestCidrIp is not specified)</p>
--	--	--	--

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	The RegionId provided does not exist in our records.	404	The specified RegionId does not exist
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	The RegionId parameter is not specified
InvalidSecurityGroupId.NotFound	The SecurityGroupId provided does not exist in our records.	404	The specified SecurityGroupId does not exist
MissingParameter	The input parameter "SecurityGroupId" that is mandatory for processing this request is not supplied.	400	The SecurityGroupId parameter is not specified
InvalidIpProtocol.ValueNotSupported	The specified IpProtocol does not exist.	400	The specified IpProtocol parameter value is not supported
MissingParameter	The input parameter "IpProtocol" that is mandatory for processing this request is not supplied.	400	The IpProtocol parameter is not specified
InvalidPriority.Malformed	The specified parameter	400	The format of the Priority parameter is

	"Priority" is not valid.		incorrect
InvalidIpPortRange.Malformed	The specified parameter "PortRange" is not valid.	400	The format of PortRange is incorrect
MissingParameter	The input parameter "PortRange" that is mandatory for processing this request is not supplied.	400	The PortRange parameter is not specified
InvalidDestGroupId.NotFound	The DestGroupId provided does not exist in our records.	404	The specified DestGroupId does not exist
InvalidDestGroupId.Mismatch	NicType is required or NicType expects intrnet.	403	You must specify the NicType parameter or the NicType must be set to "intranet"
InvalidDestCidrIp.Malformed	The specified parameter "DestCidrIp" is not valid.	400	The format of the DestCidrIp parameter is incorrect
MissingParameter	The input parameter "DestGroupId" or "DestCidrIp" cannot be both blank.	400	The DestGroupId or DestCidrIp parameter is not specified
InvalidPolicy.Malformed	The specified parameter "Policy" is not valid.	400	The format of the Policy parameter is incorrect
InvalidNicType.ValueNotSupported	The specified NicType does not exist.	400	The specified NicType value is not supported
InvalidDestGroupId.Mismatch	DestGroupOwnerAccount is required	403	Another user's DestGroup is specified, but the DestGroupOwnerUserAccount is not specified
InvalidDestGroupOwnerUserAccount.Mismatch	The specified DestGroupId is not belong to the DestGroupOwnerAccount	403	The specified DestGroup does not belong to the user specified in DestGroupOwnerUserAccount

## Examples

### Request Example

- Authorize access permissions to other security groups.

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroupEgress
&SecurityGroupId=sg-94n63e80l
&IpProtocol=all
&DestGroupId=sg-94oi1r1bp
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

- Authorize access permissions to a specified range of IP addresses.

```
https://ecs.aliyuncs.com/?Action=RevokeSecurityGroupEgress
&SecurityGroupId=sg-94n63e80l
&IpProtocol=all
&DestCidrIp=10.0.0.0/8
&IpProtocol=tcp
&PortRange=1/65535
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format

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

## VPC Related Interfaces

# Creating a VPC

## Description

Create a VPC in a specified region

- The VPC can only specify 1 CIDRBlock. The CIDRBlock ranges includes 192.168.0.0/16 and 172.16.0.0/12 as well as their subnets. The default range is 172.16.0.0/12
- After VPC creation, you cannot modify the CIDRBlock
- The cloud product instances in each VPC cannot be distributed across different regions, but can be distributed across different zones in the same region
- The number of cloud product instances in each VPC cannot exceed 5000
- During VPC creation, 1 VRouter and 1 RouteTable are automatically created. Each VPC is only permitted to have 1 VRouter and 1 RouteTable

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CreateVpc
RegionId	String	Yes	The region of the new VPC
CidrBlock	String	No	Value options: 192.168.0.0/16 and 172.16.0.0/16. When not specified, the default value is 172.16.0.0/16
VpcName	String	No	The VPC name. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, "_" and "-". The disk description will appear on the console. Cannot begin with http:// or https://

Description	String	No	The description. The default value is blank. [2, 256] English or Chinese characters. Cannot begin with http:// or https://
ClientToken	String	No	Used to ensure the idempotence of the request. This parameter value is generated by the client and must be unique for different requests. Cannot exceed 64 ASCII characters. For details, refer to the appendix

## Return Parameters

Name	Type	Description
VpcId	String	VPC ID allocated by the system
VRouterId	String	The ID of the virtual router
RouteTableId	String	The ID of the route table

## Error Code

Error Code	Description	Http status code	Meaning
InvalidRegionId.NotFound	Specified value of "RegionId" is not supported.	404	The specified Region does not exist
InvalidParameter	Specified CIDR block is not valid.	400	The specified network segment is incorrect
ResourceNotAvailable	Resource you requested is not available in this region or zone.	400	The specified region or zone does not support VPC
InvalidVpcName.Malformed	Specified VPC name is not valid.	400	The VPCName format is incorrect
InvalidVpcDiscription.Malformed	Specified VPC description is not valid.	400	The specified VPC description is incorrect
Forbbiden	User not authorized to operate on the specified resource.	403	The user does not have operation permission for the

			specified resource
QuotaExceeded.Vpc	VPC quota exceeded.	400	The VPC quota for this username has been reached

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=CreateVpc
&RegionID=cn-beijing
&<Public Request Parameters>
```

### Return Example

XML format

```
<CreateVpcResponse>
<RequestId>461D0C42-D5D1-4009-9B6A-B3D5888A19A9</RequestId>,
  <RouteTableId>vtb-25wm68mnh</RouteTableId>
  <VRouterId>vrt-25bezkd03</VRouterId>
  <VpcId>vpc-257gq642n</VpcId>
</CreateVpcResponse>
```

JSON format

```
{
  "RequestId": "461D0C42-D5D1-4009-9B6A-B3D5888A19A9",
  "RouteTableId": "vtb-25wm68mnh",
  "VRouterId": "vrt-25bezkd03",
  "VpcId": "vpc-257gq642n"
}
```

## Deleting a VPC

### Description

Delete the specified VPC

- Before deleting a VPC, you must first release or remove all resources in the VPC (including VSwitches, ECS Instances, Connections, etc.)
- Only VPCs in the Available status can be deleted

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteVpc
VpcId	String	Yes	The ID of the VPC to be deleted

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
IncorrectVpcStatus	Current VPC status does not support this operation.	400	The current VPC status does not support this operation
DependencyViolation.RouteEntry	Specified object has dependent resources	400	Custom route rules still exist for the current VPC. VPC deletion failed
DependencyViolation.Instance	Specified object has dependent resources	400	Cloud product instances still exist for the current VPC. VPC deletion failed
DependencyViolation.VSwitch	Specified object has dependent resources	400	VSwitches still exist for the current VPC. VPC deletion failed
DependencyViolation.SecurityGroup	Specified object has dependent resources	400	Security groups still exist for the current VPC. VPC deletion failed

## Examples

## Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteVpc
&VpcId=vpc-25eq58pl3
&<Public Request Parameters>
```

## Return Example

XML format

```
<DeleteVpcResponse>
  <RequestId>606998F0-B94D-48FE-8316-ACA81BB230DA</RequestId>
</DeleteVpcResponse>
```

JSON format

```
{
  "RequestId": "606998F0-B94D-48FE-8316-ACA81BB230DA"
}
```

# Querying the VPC list

## *Description*

Query the list of VPCs in the specified region. This interface supports querying by page, with 10 lines per page by default.

This interface can only verify the legitimacy of the parameters and cannot verify the dependency between parameters. The returned results are the "intersection" of all criteria.

## *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeVpcs
VpcId	String	No	The ID of the VPC to



			be queried
RegionId	String	Yes	Specifies the region for VPC query
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10

## Return Parameters

Name	Type	Description
Vpcs	VpcType	The collection composed of Vpc details VpcSetType
TotalCount	String	The number of items on the list
PageNumber	Integer	The current page
PageSize	Integer	The number of items on the current page

## Error Code

Error Code	Description	Http status code	Meaning
Forbidden.RegionNotFound	Specified region is not found during access authentication.	404	The specified region does not exist

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeVpcs
&RegionId=cn-beijing
&<Public Request Parameters>
```

## Return Example

### XML format

```
<DescribeVpcsResponse>
  <RequestId> DA1DAE87-43FA-472F-98BB-4FDBAA4A688D</RequestId>
  <Vpcs>
    <Vpc>
      <VpcId> vpc-257gq642n </VpcId>
      <RegionId>cn-beijing</RegionId>
      <VpcName> </VpcName>
      <Description> </Description>
      <VRouterId>vrt-25bezkd03</VRouterId>
      <Status> Available</Status>
      <CidrBlock> 172.16.0.0/16</CidrBlock>
      <VSwitchIds>
        </VSwitchIds>
      <CreationTime> 2014-10-29T13:30:19Z</CreationTime>
    </Vpc>
  </Vpcs>
</DescribeVpcResponse>
```

### JSON format

```
{
  "PageNumber": 1,
  "PageSize": 10,
  "RequestId": "DA1DAE87-43FA-472F-98BB-4FDBAA4A688D",
  "TotalCount": 1,
  "Vpcs": {
    "Vpc": {
      {
        "CidrBlock": "172.16.0.0/16",
        "CreationTime": "2014-10-29T13:30:19Z",
        "Description": "",
        "RegionId": "cn-beijing",
        "Status": "Available",
        "VRouterId": "vrt-25bezkd03",
        "VSwitchIds": {
          "VSwitchId": []
        },
      },
      "VpcId": "vpc-257gq642n",
      "VpcName": ""
    }
  ]
}
```

# Modifying VPC properties

## Description

Modify the attributes of the specified VPC

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyVpcAttribute
VpcId	String	Yes	The ID of the VPC to be modified
VpcName	String	No	The VPC name after modification. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, "_" and "-". This value will appear on the console.It cannot begin with http:// or https://.
Description	String	No	The description after modification. The default value is blank. [2, 256] English or Chinese characters. Cannot begin with http:// or https://.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
------------	-------------	------------------	---------

InvalidVpcId.NotFound	Specified VPC does not exist.	404	The specified VPC does not exist
InvalidVpcName.Malformed	Specified VPC name is not valid.	400	The format of the specified VPC name is not valid
InvalidVpcDescription.Malformed	Specified VPC description is not valid.	400	The format of the specified VPC description is not valid

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyVpcAttribute
&VpcId=vpc-257gq642n
&VpcName=Vpc02
&<Public Request Parameters>
```

### Return Example

XML format

```
<ModifyVpcAttributeResponse>
  <RequestId>5741F353-AD13-41A2-83C7-19E49BD9AE30</RequestId>
</ModifyVpcAttributeResponse>
```

JSON format

```
{
  "RequestId": "5741F353-AD13-41A2-83C7-19E49BD9AE30"
}
```

## VRouter Related Interfaces

# Querying the VRouter list

## Description

Query the list of virtual routers in the specified region. This interface supports querying by page, with 10 lines per page by default.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeVRouters
VRouterId	String	No	The ID of the VRouter to be queried
RegionId	String	Yes	Specifies the region for VRouter query
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10

## Return Parameters

Name	Type	Description
VRouters	VRouterSetType	A collection composed of VRouter details VRouterSetType
TotalCount	Integer	The number of items on the list
PageNumber	Integer	The current page
PageSize	Integer	The number of items on the current page

## Error Code

Error Code	Description	Http status code	Meaning
------------	-------------	------------------	---------

Forbidden.RegionNotFound	Specified region is not found during access authentication.	404	The specified Region does not exist
--------------------------	---	-----	-------------------------------------

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeVRouters
&RegionId=cn-beijing
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeVRoutersResponse>
  <RequestId>C2C6EF61-53B7-4071-A87D-B42F1F17FA5A</RequestId>
  <VRouters>
    <VRouter>
      <VpcId>vpc-257gq642n</VpcId>
      <VRouterName></VRouterName>
      <Description></Description>
      <VRouterId>vrt-25bezkd03</VRouterId>
      <RouteTableIds>
        <RouteTableId>vtb-25wm68mnh</RouteTableId>
      </RouteTableIds>
      <CreationTime>2014-10-29T13:30:19Z</CreationTime>
    </VRouter>
  </VRouters>
</DescribeVRoutersResponse>
```

JSON format

```
{
  "PageNumber": 1,
  "PageSize": 10,
  "RequestId": "C2C6EF61-53B7-4071-A87D-B42F1F17FA5A",
  "TotalCount": 1,
  "VRouters": {
    "VRouter": [
      {
        "CreationTime": "2014-10-29T13:30:19Z",
        "Description": ""
```

```

    "RegionId": "cn-beijing",
    "RouteTableIds": {
      "RouteTableId": [
        "vtb-25wm68mnh"
      ]
    },
    "VRouterId": "vrt-25bezkd03",
    "VRouterName": "",
    "VpcId": "vpc-257gq642n"
  }
]
}
}

```

## Modifying VRouter properties

### Description

Modifies the properties of the specified VRouter

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyVRouterAttribute
VRouterId	String	Yes	The ID of the VRouter to be modified
VRouterName	String	No	The VRouter name after modification. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, "_" and "-". This value will appear on the console.It cannot begin with http:// or https://.
Description	String	No	The VRouter description after modification. The default value is blank.

			[2, 256] English or Chinese characters. Cannot begin with http:// or https://.
--	--	--	--

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidVRouterId.NotFound	Specified virtual router does not exist.	404	The specified virtual router does not exist
InvalidVRouterName.Malformed	Specified virtual router name is not valid.	400	The specified virtual router name is invalid
InvalidVRouterDescription.Malformed	Specified virtual router description is not valid.	400	The specified virtual router description is invalid

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyVRouterAttribute
&VRouterId=vrt-25bezkd03
&VRouterName=VRouter
&<Public Request Parameters>
```

### Return Example

XML format

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

JSON format



```
{
  "RequestId": "E0AAA98E-8E3C-4C11-95F3-5E2B8AD51703"
}
```

## VSwitch Related Interfaces

### Creating a VSwitch

#### *Description*

Creates a new VSwitch in the specified VPC.

- The cloud instances under a VSwitch cannot be distributed across different zones
- Each VPC cannot have more than 24 VSwitches
- Each VSwitch mask is 16-24 bits and can provide 256-65535 IP addresses
- The first 1 and last 9 VSwitch IP addresses are retained by the system (for example, for 192.168.1.0/24, the IP addresses reserved by the system are 192.168.1.0, 192.168.1.255, and 192.168.1.247 - 254).
- VSwitches do not support broadcasting or multicasting
- The VSwitch's CIDRBlock must belong to its VPC's CIDRBlock
- VSwitch CIDRBlocks can be identical with a CIDRBlock within the VPC, but this means your VPC can only have 1 VSwitch
- A VSwitch CIDRBlock cannot be identical to the current RouteEntry's DestCIDRBlock of the VPC
- A VSwitch CIDRBlock cannot contain the VPC's current RouteEntry DestCIDRBlock, but can be a subset of the current RouteEntry DestCIDRBlock
- After VSwitch creation, the CidrBlock cannot be modified
- The number of cloud product instances under the VSwitch cannot exceed the available number of instances for the VPC (5000 - the current number of cloud product instances)
- A single cloud product instance can only belong to 1 VSwitch

#### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CreateVSwitch
ZoneId	String	Yes	ID of the zone

CidrBlock	String	Yes	The network address allocated to the new VSwitch
VpcId	String	Yes	The VPC of the new VSwitch
VSwitchName	String	No	The VSwitch name. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, "_" and "-". This value will appear on the console. It cannot begin with http:// or https://.
Description	String	No	The VSwitch description. The default value is blank. [2, 256] English or Chinese characters. Cannot begin with http:// or https://.
ClientToken	String	No	Used to ensure 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.

## Return Parameters

Name	Type	Description
VSwitchId	String	The system allocated VSwitchID

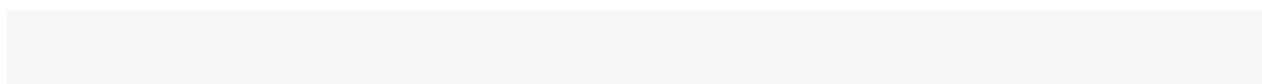
## Error Code

Error Code	Description	Http status code	Meaning
InvalidZoneId.NotFound	Specified zone does not exist.	404	The specified zone does not exist
InvalidVpcId.NotFound	Specified VPC does not exist.	404	The specified VPC does not exist

InvalidCidrBlock.Malformed	Specified CIDR block is not valid.	400	The specified CIDR format is incorrect
InvalidVSwitchName.Malformed	Specified virtual switch name is not valid.	400	The format of the specified VSwitch name is incorrect
InvalidVSwitchDescription.Malformed	Specified virtual switch description is not valid.	400	The format of the specified VSwitch description is incorrect
ResourceNotAvailable	Resource you requested is not available in this region or zone.	400	The specified region or zone does not support VPC
InvalidParameter	Specified CIDR block is not valid in VPC.	400	The specified CIDR is incorrect
InvalidCidrBlock.Overlapped	Specified CIDR block overlapped with other subnets.	400	The specified CIDR overlaps with the CIDR of another VSwitch
InvalidCidrBlock.Overlapped	Specified CIDR block overlapped with other entry	400	The specified CIDR overlaps with a CIDR that already has a custom route
QuotaExceeded.VSwitch	Virtual switch quota exceeded.	400	The VSwitch quota has been reached
IncorrectRouteEntryStatus	Some route entry status blocked this operation.	400	Some custom routes are in the pending status. VSwitch creation failed
IncorrectVSwitchStatus	Some virtual switch is modifying within the same VPC.	400	Some VSwitches are in the pending status. VSwitch creation failed
InvalidCidrBlock.MaskLength	Specified CIDR block is not valid.	400	The specified CIDR network segment format is incorrect
IncorrectVpcStatus	Current VPC status does not support this operation.	400	The specified VPC is in the pending status. VSwitch creation failed

## Examples

### Request Example



```
https://ecs.aliyuncs.com/?Action=CreateVSwitch
&CidrBlock=172.16.1.0/24
&VpcId=vpc-257gq642n
&ZoneId=cn-beijing-a
&<Public Request Parameters>
```

## Return Example

XML format

```
<CreateVSwitchResponse>
  <RequestId>861E6630-AEC0-4B2D-B214-6CB5E44B7F04</RequestId>
  <VSwitchId>vsw-25naue4gz</VSwitchId>
</CreateVSwitchResponse>
```

JSON format

```
{
  "RequestId": "861E6630-AEC0-4B2D-B214-6CB5E44B7F04",
  "VSwitchId": "vsw-25naue4gz"
}
```

# Deleting a VSwitch

## Description

Deletes the specified VSwitch

- Only VSwitches in the Available status can be deleted
- Before deleting a VSwitch, you must release or remove all resources under the VSwitch, e.g. ECS instances
- If the VPC of the specified RouteTable is creating/deleting a VSwitch or creating/deleting a RouteEntry, you cannot perform the delete VSwitch operation

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteVSwitch

VSwitchId	String	Yes	The ID of the VSwitch to be deleted
-----------	--------	-----	-------------------------------------

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
IncorrectVSwitchStatus	The current virtual switch status does not support this operation.	400	The specified VSwitch is in the pending state, and cannot be deleted
DependencyViolation	Specified object has dependent resources.	400	The specified VSwitch still has unreleased resources, and cannot be deleted
IncorretRouteEntryStatus	Some route entry status blocked this operation.	400	Some custom route entries are in the pending state, and cannot be deleted

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteVSwitch
&VSwitchId=vsw-25naue4gz
&<Public Request Parameters>
```

### Return Example

XML format

```
<DeleteVSwitchesResponse>
  <RequestId>AF083E3D-7E29-4B77-A937-1F129802D5F3</RequestId>
</DeleteVSwitchesResponse>
```

JSON format

```
{
  "RequestId": "AF083E3D-7E29-4B77-A937-1F129802D5F3"
}
```

## Querying the VSwitch list

### Description

Queries the user's VSwitch list. This interface supports querying by page, with 10 lines per page by default.

This interface can only verify the legitimacy of the parameters and cannot verify the dependency between parameters. The returned results are the "intersection" of all criteria.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeVSwitches
VpcId	String	Yes	VpcId
VSwitchId	String	No	The ID of the VSwitch to be queried
ZoneId	String	No	ID of the zone
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10

### Return Parameters

Name	Type	Description
VSwitches	VSwitchType	A collection composed of VSwitch details VSwitchSetType

TotalCount	Integer	The number of items on the list
PageNumber	Integer	The current page
PageSize	Integer	The number of items on the current page

## Error Code

Error Code	Description	Http status code	Meaning
Forbidden.VpcNotFound	Specified VPC is not found during access authentication.	404	The specified VPC does not exist

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeVSwitches
&VpcId=vpc-25eq58pl3
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeVSwitchesResponse>
  <RequestId>9A572171-4E27-40D1-BD36-D26C9E71E29E</RequestId>
  <VSwitches>
    <VSwitch>
      <VSwitchId> vsw-25b7pv15t </VSwitchId>
      <Status>Available</Status>
      <CidrBlock>172.16.1.0/24</CidrBlock>
      <ZoneId>cn-beijing-a</ZoneId>
      <AvailableIpAddressCount>246</AvailableIpAddressCount>
      <VpcId>vpc-257gq642n</VpcId>
      <Description> </Description>
      <VSwitchName> </VSwitchName>
      <CreationTime> 2014-10-29T15:21:02Z </CreationTime>
    </VSwitch>
  </VSwitches>
</DescribeVSwitchesResponse>
```

JSON format

```

{
  "PageNumber": 1,
  "PageSize": 10,
  "RequestId": "9A572171-4E27-40D1-BD36-D26C9E71E29E",
  "TotalCount": 1,
  "VSwitches": {
    "VSwitch": [
      {
        "AvailableIpAddressCount": 246,
        "CidrBlock": "172.16.1.0/24",
        "CreationTime": "2014-10-29T15:21:02Z",
        "Description": "",
        "Status": "Available",
        "VSwitchId": "vsw-25b7pv15t",
        "VSwitchName": "",
        "VpcId": "vpc-257gq642n",
        "ZoneId": "cn-beijing-a"
      }
    ]
  }
}

```

## Modifying VSwitch properties

### *Description*

Modifies the properties of the specified VSwitch

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:ModifyVSwitchAttribute
VSwitchId	String	Yes	The ID of the VSwitch to be modified
VSwitchName	String	No	The VSwitch name. The default value is blank. [2, 128] English or Chinese characters, must begin with an uppercase/lowercase letter or Chinese character. Can contain numbers, "_" and "-".



			This value will appear on the console. It cannot begin with http:// or https://.
Description	String	No	The VSwitch description after modification. The default value is blank. [2, 256] English or Chinese characters. Cannot begin with http:// or https://.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidVSwitchId.NotFound	The specified virtual switch does not exist.	404	The specified VSwitch does not exist
InvalidVSwitchName.Malformed	Specified virtual switch name is not valid.	400	The format of the specified VSwitch name is incorrect
InvalidVSwitchDescription.Malformed	Specified virtual switch description is not valid.	400	The format of the specified VSwitch description is incorrect

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=ModifyVSwitchAttribute
&VSwitchId=vpc-257gq642n
&<Public Request Parameters>
```

### Return Example

XML format

```
<ModifyVSwitchAttributeResponse>
  <RequestId>C0FD0EED-F90D-4479-803D-DD62335357E5</RequestId>
</ModifyVSwitchAttributeResponse>
```

JSON format

```
{
  "RequestId":"C0FD0EED-F90D-4479-803D-DD62335357E5"
}
```

## RouteEntry Related Interfaces

### Creating a custom route

#### *Description*

Creates a RouteEntry

- The RouteEntry's 'DestinationCidrBlock' may not be identical to a VSwitch 'CIDRBlock' in the same VPC. Also, it may not contain or used by a VSwitch 'CIDRBlock'
- The RouteEntry's 'DestinationCidrBlock' network segment may not point to 100.64.0.0/10 or used by 100.64.0.0/10
- Under normal conditions, the RouteEntry's 'DestinationCidrBlock' network segment can not be point to 10.0.0.0/8 or used by 10.0.0.0/8
- Identical RouteEntry 'DestinationCidrBlocks' may not exist under the same VRouter
- If the specified 'DestinationCidrBlock' is an IP address, it will be processed according to a 32-bit mask
- Multiple RouteEntries may point to the same 'InstanceId'
- The RouteEntry's specified next hop 'InstanceId' must belong to the VPC

#### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:CreateRouteEntry

RouteTableId	String	Yes	RouteTableId
DestinationCidrBlock	String	Yes	The RouteEntry's target network segment
NextHopType	String	No	The next hop type. Available value options: Instance   Tunnel. The default value is Instance
NextHopId	String	Yes	The route entry's next hop
ClientToken	String	No	Used to ensure 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 details, refer to the appendix: How to Ensure Idempotence.

## Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
InvalidCidrBlock.Malformed	Specified CIDR block is not valid.	400	The specified network segment is invalid
InvalidInstanceId.NotFound	Specified instance does not exist.	404	The specified ECS instance does not exist (the instance does not belong to this VPC)
InvalidRouteTableId.NotFound	Specified route table does not exist.	404	The specified virtual route table does not exist
InvalidCIDRBlock.Duplicate	Specified CIDR block already exists.	400	The specified network segment already exists in the route table
IncorrectVpcStatus	Current VPC status	400	Creation of the

	does not support this operation.		specified VPC has not been completed
QuotaExceeded	Route entry quota exceeded in this route table.	400	The number of custom route entries in a single route table cannot exceed 48
IncorretRouteEntryStatus	Some route entry status blocked this operation.	400	If any route entry or VSwitch in a route table under the same VPC is in an intermediate status (adding, modifying, deleting), a route entry cannot be created
InvalidCidrBlock	Specified CIDR block is not valid.	400	<ol style="list-style-type: none"> <li>1. This user is not in the white list for the 10.0.0.0/8 route segment and cannot use this segment.</li> <li>2. The added custom route's target segment cannot belong to the network segment for all VSwitches under the same VPC.</li> <li>3. The network segment cannot be: 100.64.0.0 / 10.</li> </ol>
InvalidNextHop.NotFound	Specified next hop does not exist.	404	The specified next hop does not exist

## Examples

### Request Example

```

https://ecs.aliyuncs.com/?Action=CreateRouteEntry
&VpcId=vpc-257gq642n
&DestinationCidrBlock=0.0.0.0/0
&NextHopId=i-25skktcp4
&NextHopType=Instance
&<Public Request Parameters>

```

### Return Example

XML format

```
<CreateRouteEntryResponse>
  <RequestId>12D086F6-8F31-4658-84C1-006DED011A85</RequestId>
</CreateRouteEntryResponse>
```

JSON format

```
{
  "RequestId": "12D086F6-8F31-4658-84C1-006DED011A85"
}
```

## Deleting a custom route

### Description

Deletes the specified RouteEntry

- You can only delete a RouteEntry in the 'Available' state
- If the VPC of the RouteTable is creating/deleting a VSwitch or creating/deleting a RouteEntry, you cannot perform the delete RouteEntry operation

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DeleteRouteEntry
RouteTableId	String	Yes	The RouteEntry's RouteTableId
DestinationCidrBlock	String	Yes	The RouteEntry's DestCidrBlock
NextHopId	String	Yes	The RouteEntry's next hop ID

### Return Parameters

All are public return parameters. For details, see [Public Return Parameters](#)

## Error Code

Error Code	Description	Http status code	Meaning
IncorretRouteEntryStatus	Some route entry status blocked this operation.	400	1. If any route entry in a route table under the same VPC is in an intermediate status (adding, modifying, deleting), a route entry cannot be deleted. 2. If a VSwitch under the same VPC is in an intermediate status (creating, deleting), a route entry cannot be deleted.
InvalidCidrBlock.Malformed	Specified CIDR block is not valid.	400	Incorrect CidrBlock input format
InvalidRouteTableId.NotFound	Specified route table does not exist.	404	The RouteTableId does not exist
OperationDenied	Specified operation is denied as route entry type is system.	400	Cannot delete a System route entry

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DeleteRouteEntry
&RouterTableId=vtb-25vtxl5ct
&DestinationCidrBlock=192.168.1.0/24
&NextHopId=i-25skktcp4
&<Public Request Parameters>
```

### Return Example

XML format

```
<DeleteRouteEntryResponse>
  <RequestId>4357FA74-F9F3-46E7-8890-AA30EC4F8D4F </RequestId>
</DeleteRouteEntryResponse>
```

JSON format

```
{
  "RequestId": "4357FA74-F9F3-46E7-8890-AA30EC4F8D4F"
}
```

## Querying the RouteEntry list

### Description

Query the list of route tables under the user name. This interface supports querying by page, with 10 lines per page by default. This interface can only verify the legitimacy of the parameters and cannot verify the dependency between parameters. The returned results are the "intersection" of all criteria.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeRouteTables
VRouterId	String	Yes	VRouterId
RouteTableId	String	No	RouteTableId
PageNumber	Integer	No	Page number of the instance status list. The start value is 1. The default value is 1
PageSize	Integer	No	The number of lines per page set for paging query. The maximum value is 50 and default value is 10

### Return Parameters

Name	Type	Description
RouteTables	RouteTableSetType	RouteTable details, RouteTableSetType collection
TotalCount	Integer	The number of items on the list

PageNumber	Integer	The current page
PageSize	Integer	The number of items on the current page

## Error Code

Error Code	Description	Http status code	Meaning
Forbidden.VRouterNotFound	Specified virtual switch is not found during access authentication.	404	RAM failed, RegionId not found

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeRouteTables
&VRouterId=vrt-25u5f8u2q
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeRouteTablesResponse>
  <RequestId>913F8774-681A-4857-95D8-ACBAF044D453</RequestId>
  <RouteTables>
    <RouteTableId>routetable01</RouteTableId>
    <RouteEntries>
      <RouteEntry>
        <DestinationCidrBlock>192.168.10.1/32</DestinationCidrBlock>
        <Type>Custom</Type>
        <InstanceId>i-25skktcp4</InstanceId>
        <Status>Available</Status>
        <RouteTableId>vtb-25vtxl5ct</RouteTableId>
      </RouteEntry>
      <RouteEntry>
        <DestinationCidrBlock>192.168.1.0/24</DestinationCidrBlock>
        <InstanceId></InstanceId>
        <RouteTableId>vtb-25vtxl5ct</RouteTableId>
        <Status>Available</Status>
        <Type>System</Type>
      </RouteEntry>
    </RouteEntries>
  </RouteTables>
</DescribeRouteTablesResponse>
```



```

    <DestinationCidrBlock>100.64.0.0/10</DestinationCidrBlock>
    <InstanceId> </InstanceId>
    <RouteTableId>vtb-25vtxl5ct</RouteTableId>
    <Status>Available</Status>
    <Type>System</Type>
  </RouteEntry>
</RouteEntry>
  <DestinationCidrBlock>10.0.0.0/8</DestinationCidrBlock>
  <InstanceId> </InstanceId>
  <RouteTableId>vtb-25vtxl5ct</RouteTableId>
  <Status>Available</Status>
  <Type>System</Type>
</RouteEntry>
</RouteEntries>
<RouteTableId> vtb-25vtxl5ct</RouteTableId>
<RouteTableType>System</RouteTableType>
<VRouterId>vrt-25u5f8u2q</VRouterId>
  <CreationTime> 2014-09-11T04:52:53Z </CreationTime>
</RouteTables>
</DescribeRouteTablesResponse>

```

### JSON format

```

{
  "PageNumber": 1,
  "PageSize": 10,
  "RequestId": "913F8774-681A-4857-95D8-ACBAF044D453",
  "RouteTables": {
    "RouteTable": [
      {
        "CreationTime": "2014-09-11T04:52:53Z",
        "RouteEntries": {
          "RouteEntry": [
            {
              "DestinationCidrBlock": "192.168.10.1/32",
              "InstanceId": "i-25skktcp4",
              "RouteTableId": "vtb-25vtxl5ct",
              "Status": "Available",
              "Type": "Custom"
            },
            {
              "DestinationCidrBlock": "192.168.1.0/24",
              "InstanceId": "",
              "RouteTableId": "vtb-25vtxl5ct",
              "Status": "Available",
              "Type": "System"
            },
            {
              "DestinationCidrBlock": "100.64.0.0/10",
              "InstanceId": "",
              "RouteTableId": "vtb-25vtxl5ct",
              "Status": "Available",
              "Type": "System"
            }
          ]
        }
      }
    ]
  }
}

```

```

    {
      "DestinationCidrBlock": "10.0.0.0/8",
      "InstanceId": "",
      "RouteTableId": "vtb-25vtxl5ct",
      "Status": "Available",
      "Type": "System"
    }
  ],
  "RouteTableId": "vtb-25vtxl5ct",
  "RouteTableType": "System",
  "VRouterId": "vrt-25u5f8u2q"
}
]
},
"TotalCount": 1
}

```

## Region Related Interfaces

### Querying the zone list

#### *Description*

#### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeRegions

#### *Return Parameters*

All are public return parameters. For details, see [Public Return Parameters](#)

Name	Type	Description
Regions	RegionType	A collection composed of region information RegionType

## Error Code

Refer to Public Error Codes

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeRegions
&<Public Request Parameters>
```

### Return Example

XML format

```
<DescribeRegionsResponse>
  <RequestId>611CB80C-B6A9-43DB-9E38-0B0AC3D9B58F</RequestId>
  <Regions>
    <Region>
      <RegionId>cn-hangzhou </RegionId>
    </Region>
    <Region>
      <RegionId>cn-qingdao</RegionId>
    </Region>
  </Regions>
</DescribeRegionsResponse>
```

JSON format

```
{
  "RequestId": "611CB80C-B6A9-43DB-9E38-0B0AC3D9B58F",
  "Regions": {
    "Region": [{
      "RegionId": "cn-hangzhou "
    },
    {
      "RegionId": "cn-qingdao"
    }
  ]
}
```

# Querying a zone

## Description

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeZones
RegionId	String	Yes	Destination RegionId

## Return Parameters

Name	Type	Description
Zones	ZoneType	A collection composed of data center information ZoneType

## Error Code

Error Code	Description	Http status code	Meaning
MissingParameter	The input parameter "RegionId" that is mandatory for processing this request is not supplied.	400	RegionId value missing (or the user might not be authorized to use the region)

## Examples

### Request Example

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

### Return 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"
}
]
}
}

```

## Monitoring Related Interfaces

### Querying monitoring information of an ECS instance

#### *Description*

Query by page all the user's ECS-related monitoring information.

- Only monitoring information for an ECS that is not in the Deleted state or that is still in the Stopped state can be queried.
- The monitoring information that can be returned includes: The ECS' CPU usage, memory count allocated to the ECS, data traffic received by the ECS, data traffic sent by the ECS, ECS network traffic, and ECS average bandwidth. Some portion may be missing from the returned monitoring data. This may be due to the fact that the system has not obtained the relevant information, e.g., when an instance is in the Stopped status.
- At one time, up to 60 monitoring data entries can be returned. If the specified  $(EndTime - StartTime) / Period > 60$ , an error is returned.

#### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter,

			with a value:DescribeInstanceMonitorData
InstanceId	String	Yes	The specified monitoring instance ID
StartTime	String	Yes	The start time of the retrieved data:which is represented according to ISO8601, and UTC is required. Supported format: YYYY-MM-DDThh:mm:ssZ. If the seconds place is not 00, it is automatically set to start of the next minute
EndTime	String	Yes	The end time of the retrieved data:which is represented according to ISO8601, and UTC is required. Supported format: YYYY-MM-DDThh:mm:ssZ. If the seconds place is not 00, it is automatically set to start of the next minute
Period	Integer	No	The precision of the retrieved monitoring data: <ul style="list-style-type: none"> <li>- 60 seconds</li> <li>- 600 seconds</li> <li>- 3600 seconds</li> </ul> The default value is 60 seconds.

## Return Parameters

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

## Error Code

Error Code	Description	Http status code	Meaning
------------	-------------	------------------	---------

InvalidInstanceId.NotFound	The InstanceId provided does not exist in our records.	404	The specified InstanceId does not exist
MissingParameter	The input parameter "InstanceId" that is mandatory for processing this request is not supplied.	400	InstanceId value missing
InvalidStartTime.Malformed	The specified parameter "StartTime" is not valid.	400	The indicated StartTime format is invalid
MissingParameter	The input parameter "StartTime" that is mandatory for processing this request is not supplied.	400	The StartTime value is missing
InvalidEndTime.Malformed	The specified parameter "EndTime" is not valid.	400	The indicated EndTime format is invalid
MissingParameter	The input parameter "EndTime" that is mandatory for processing this request is not supplied.	400	The EndTime value is missing
InvalidParameter	The specified parameter "Period" is not valid.	400	The indicated Period is not a number
InvalidPeriod.ValueNotSupported	The specified parameter "Period" is not valid.	400	The indicated Period format is invalid
InvalidStartTime.TooEarly	The specified parameter "StartTime" is too early.	400	The indicated StartTime is too early

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceMonitorData
&InstanceId=i-instnace1
&StartTime=2014-10-29T23:00:00Z
```



```
&EndTime=2014-10-30T08:00:00Z
&<Public Request Parameters>
```

## Return Example

XML format

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

JSON format

```
{
  "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
  "MonitorData": {
    "InstanceMonitorData": [{
      "InstanceId": "Bc0102-23xYm09",
      "CPU": 0,
      "IntranetRX": 122,
      "IntranetTX": 343,
      "IntranetFlow": 675,
      "IntranetBandwidth": 10,
      "InternetRX": 122,
      "InternetTX": 343,
      "InternetFlow": 675,
      "InternetBandwidth": 10,
      "IOPSRead": 1000,
      "IOPSWrite": 200,
      "BPSRead": 1000,
      "BPSWrite": 200,
```

```

    "TimeStamp": "2010-01-21T09:50:23Z"
  }}
}
}

```

## Querying EIP monitoring information

### Description

Query EIP monitoring information

- Up to 200 monitoring data entries can be returned at once. If the specified (EndTime - StartTime)/ Period > 200, an error is returned.
- If EndTime - StartTime < period, then only the data for the StartTime point are returned.

### Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeEipMonitorData
AllocationId	String	Yes	EIP application Id.
StartTime	String	Yes	The start time of the retrieved data:which is represented according to ISO8601, and UTC is required. Format: YYYY-MM-DDThh:mm:ssZ. If the seconds place is not 00, it is automatically set to start by the next minute
EndTime	String	Yes	The end time of the retrieved data:which is represented according to ISO8601, and UTC is required. Format: YYYY-MM-DDThh:mm:ssZ. If the seconds place is not 00, it is automatically set to start by the next

			minute
Period	Integer	No	The precision of the retrieved monitoring data. The default value is 60 seconds and the available value options are 60   300   900   3600.

## Return Parameters

Name	Type	Description
EipMonitorDatas	EipMonitorDataSetType	A collection composed of instance monitoring data EipMonitorDataType.

## Error Code

Error Code	Description	Http status code	Meaning
InvalidAllocationId.NotFound	Specified allocation id is not found.	400	EIP not found
InvalidStartTime.Malformed	Specified start time is malformed.	400	The StartTime format is invalid
InvalidEndTime.Malformed	Specified end time is malformed.	400	The EndTime format is invalid
InvalidParameter	Specified value of "Period" is not valid	400	The Period value is not in the available range
OperationDenied.ToomanyDataQueried	Specified operation is denied as too many data to return.	400	There are too many query entries. Please reduce the time interval

## Examples

### Request Example

```
https://ecs.aliyuncs.com/?Action= DescribeEipMonitorData
&AllocationId=eip-2578g5v5a
&StartTime=2014-10-29T23:00:00Z
&EndTime=2014-10-30T08:00:00Z
&<Public Request Parameters>
```

## Return Example

XML format

```
<DescribeEipMonitorDataResponse>
<RequestId>C8B26B44-0189-443E-9816-D951F59623A9</RequestId>
<EipMonitorDatas>
  <EipMonitorData>
    <EipRX>122</EipRX>
    <EipTX>343</EipTX>
    <EipFlow>675</EipFlow>
    <EipPackets>3434</EipPackets>
    <EipBandwidth>10</EipBandwidth>
    <TimeStamp>2010-01-21T09:50:23Z</TimeStamp>
  </EipMonitorData>
</EipMonitorDatas>
</DescribeEipMonitorDataResponse>
```

JSON format

```
{
  "RequestId": "C8B26B44-0189-443E-9816-D951F59623A9",
  "EipMonitorDatas": {
    "EipMonitorData": [{
      "EipRX": "122",
      "EipTX": "343",
      "EipFlow": "675",
      "EipPackets": "3434",
      "EipBandwidth": "10",
      "IntranetFlow": 675,
      "IntranetBandwidth": 10,
      "TimeStamp": "2010-01-21T09:50:23Z",
    }]
  }
}
```

# Viewing monitoring information of a disk

## *Description*

Query by page the user's monitoring information related to the specified disk.

- You can only query monitoring information for disks with 'In\_use' state.
- The monitoring information that can be returned includes: Disk read IOPS, disk write IOPS,

disk read bandwidth (Bps), disk write bandwidth (Bps), disk read timeout (ms), disk write timeout (ms). Some portion may be missing from the returned monitoring data. This may be due to the fact that the system has not obtained the relevant information, e.g., when a disk is in the 'In\_use' state.

- At one time, up to 60 monitoring data entries can be returned. If the specified (EndTime - StartTime)/ Period > 60, an error is returned.

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeDiskMonitorData
DiskId	String	Yes	The specified monitoring disk ID
StartTime	String	Yes	The start time of the retrieved data: which is represented according to ISO8601, and UTC is required. Format: YYYY-MM-DDThh:mm:ssZ. If the seconds place is not 00, it is automatically set to start from the next minute
EndTime	String	Yes	The end time of the retrieved data: which is represented according to ISO8601, and UTC is required. Format: YYYY-MM-DDThh:mm:ssZ. If the seconds place is not 00, it is automatically set to start from the next minute
Period	Integer	No	The precision of the retrieved monitoring data: <ul style="list-style-type: none"> <li>- 60 seconds</li> <li>- 600 seconds</li> <li>- 3600 seconds</li> </ul> The default value is 60 seconds.

## Return Parameters

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

## Error Code

Error Code	Description	Http status code	Meaning
InvalidDiskId.NotFound	The DiskId provided does not exist in our records.	404	The specified disk ID does not exist
MissingParameter	The input parameter "DiskId" that is mandatory for processing this request is not supplied.	400	The DiskId parameter is missing
InvalidStartTime.Malformed	The specified parameter "StartTime" is not valid.	400	The StartTime format is invalid
MissingParameter	The input parameter "StartTime" that is mandatory for processing this request is not supplied.	400	The StartTime value is missing
InvalidEndTime.Malformed	The specified parameter "EndTime" is not valid.	400	The indicated EndTime format is invalid
MissingParameter	The input parameter "EndTime" that is mandatory for processing this request is not supplied.	400	The EndTime value is missing
InvalidParameter	The specified parameter "Period" is not valid.	400	The indicated Period is not a number
InvalidPeriod.ValueNotSupported	The specified parameter "Period" is not valid.	400	The indicated Period format is invalid

InvalidStartTime.Too Early	The specified parameter "StartTime" is too early.	400	The indicated StartTime is too early
----------------------------	---	-----	--------------------------------------

## Examples

### Request Example

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

### Return Example

XML format

```
<?xml version="1.0" encoding="utf-8"?>
<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
}

```



# Other Interfaces

## Querying Instance Type List

### *Description*

Queries the list of instance types provided by ECS.

- The available types are the same as the Pay-As-You-Go types on the official website. For details, see: [ECS API Product and Business Restrictions](#)
- If you need more types, submit a resizing request through the AliCloud ticket system.

### *Request Parameters*

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value:DescribeInstanceTypes
InstanceTypeFamily	String	No	The instance type family

### *Return Parameters*

Name	Type	Description
InstanceTypes	InstanceItemType	A collection composed of InstanceItemType

### *Error Codes*

Refer to [Public Error Codes](#)

### *Examples*

#### Request Example

```
https://ecs.aliyuncs.com/?Action=DescribeInstanceTypes
&<Public Request Parameters>
```

## Return Example

XML format

```
<DescribeInstanceTypesResponse>
  <RequestId>1651FBB6-4FBF-49FF-A9F5-DF5D696C7EC6</RequestId>
  <InstanceTypes>
    <InstanceType>
      <InstanceTypeId>ecs.t1.xsmall</InstanceTypeId>
      <CpuCoreCount>1</CpuCoreCount>
      <MemorySize>0.5</MemorySize>
    </InstanceType>
    <InstanceType>
      <InstanceTypeId>ecs.t1.small</InstanceTypeId>
      <CpuCoreCount>1</CpuCoreCount>
      <MemorySize>1</MemorySize>
    </InstanceType>
  </InstanceTypes>
</DescribeInstanceTypesResponse>
```

JSON format

```
{
  "RequestId": "1651FBB6-4FBF-49FF-A9F5-DF5D696C7EC6",
  "InstanceTypes": {
    "InstanceType": [{
      "InstanceTypeId": "ecs.t1.xsmall",
      "CpuCoreCount": 1,
      "MemorySize": 0.5
    },
    {
      "InstanceTypeId": "ecs.t1.small",
      "CpuCoreCount": 1,
      "MemorySize": 1
    }
  ]
}
```

# Querying Instance Type Family List

## Description

Queries instance type family information

## Request Parameters

Name	Type	Required?	Description
Action	String	Yes	Required parameter, with a value: DescribeInstanceTypeFamilies
RegionId	String	Yes	The region ID
Generation	String	No	The instance generation. Optional values: <ul style="list-style-type: none"> <li>- ecs-1: Generation I</li> <li>- ecs-2: Generation II</li> </ul>

## Return Parameters

Name	Type	Description
InstanceTypeFamilies	InstanceTypeFamilyItemType	A collection composed of InstanceTypeFamilyItemType

## Data Type

### DiskItemType

#### *Description*

List types of disk information items.

#### *Node Name*

Disk

***Subnode***

Name	Type	Description
DiskId	String	ID of the disk
RegionId	String	ID of the region to which the disk belongs
ZoneId	String	ID of the zone to which the disk belongs
DiskName	String	Name of the disk
Description	String	Description of the disk
Type	String	Type of the disk Available options are: - system: System disk - data: Data disk
Category	String	Category of the disk Available options are: - cloud: Basic cloud disk - ephemeral: Ephemeral disk - ephemeral_ssd: Ephemeral SSD
Size	Integer	Size of the disk, measured in GB
ImageId	String	ID of the image from which the disk is created. It is null unless the disk is created using an image. Its value remains unchanged throughout the life cycle of the disk
SourceSnapshotId	String	Snapshot used to create the disk. It is null if no snapshot is used to create the disk. Its value remains unchanged throughout the life cycle of the disk.
ProductCode	String	ID of a product sold in the image marketplace
Portable	String	Whether the disk is detachable - True indicates the disk is an independent basic cloud disk. This type of

		<p>disk exists independently and can be attached or detached in the same zone</p> <ul style="list-style-type: none"> <li>- False indicates the disk is a non-independent basic cloud disk. Such disk is created or deleted along with an instance.</li> </ul> <p>To attach or detach a disk, first check that this attribute of the disk is true. For ephemeral disks, ephemeral SSDs, basic cloud system disks, and basic cloud disks with monthly subscriptions, this attribute is false. The user cannot modify this attribute.</p>
Status	String	Disk status In_use   Available   Attaching   Detaching   Creating   ReIniting
OperationLocks	OperationLocksType	Type of reason why the disk is locked
InstanceId	String	ID of the related instance It is null unless the Status is In_use.
Device	String	Device information of the related instance: such as /dev/xvdb It is null unless the Status is In_use.
DeleteWithInstance	String	True indicates the disk is released along with the release of the instance; false indicates the disk is not released along with the release of the instance.
DeleteAutoSnapshot	String	Whether auto snapshots are deleted or not when the disk is deleted. Its value can be true or false. Snapshots created using CreateSnapshot or on the console are not affected. They are retained permanently.
EnableAutoSnapshot	String	Whether auto snapshot policies are enforced or not for the disk. Its value can be true or false. True indicates that auto snapshot policies are enforced

		for the disk; false indicates that auto snapshot policies are not enforced for the disk
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Format: YYYY-MM-DDThh:mmZ
AttachedTime	String	Time when the disk is attached. It is represented according to ISO8601, and UTC time is used. Format: YYYY-MM-DDThh:mmZ It is valid only when the Status is In_use
DetachedTime	String	Time when the disk is detached. It is represented according to ISO8601, and UTC time is used. Format: YYYY-MM-DDThh:mmZ It is valid only when the Status is Available

## DiskSetType

### *Description*

Type of a disk information list.

### *Node Name*

Disks

### *Subnode*

Name	Type	Description
Disk	DiskItemType	Disk information DiskItemType

# ImageType

## Description

Type of image information.

## Node Name

Image

## Subnode

Name	Type	Description
ImageId	String	ID of the image
ImageVersion	String	Version of the image
Architecture	String	Platform type of the image system:i386   x86_64
ImageName	String	Name of the image
Description	String	Description
Size	Integer	Size of the image
ImageOwnerAlias	String	Alias of the image owner Valid values: <ul style="list-style-type: none"> <li>- system – public system images</li> <li>- self – user-defined images</li> <li>- others – images shared by other users</li> <li>- marketplace – images available on the image market</li> </ul>
OSName	String	Display name of the OS
DiskDeviceMappings	DiskDeviceMapping	Description of the system with disks and snapshots under an image
ProductCode	String	Product code of the image on the image market
IsSubscribed	String	Whether the user has subscribed

		<p>to the terms of service for the image product corresponding to the ProductCode.</p> <ul style="list-style-type: none"> <li>- true: indicates subscription has been made</li> <li>- false: indicates subscription has not been made</li> </ul>
Progress	String	Progress of image creation, presented in percentages
Status	String	<p>Status of the image, with possible values:</p> <ul style="list-style-type: none"> <li>- UnAvailable</li> <li>- Available</li> <li>- Creating</li> <li>- CreateFailed</li> </ul>
CreationTime	String	<p>Time of creation. It is represented according to ISO8601, and UTC time is used. Format: YYYY-MM-DDThh:mmZ</p>

## InstanceMonitorDataType

### *Description*

Type of instance metric data.

### *Node Name*

InstanceMonitorData

### *Subnode*

Name	Type	Description
InstanceId	String	ID of the instance
CPU	Integer	CPU usage, presented in:



		percentages (%)
IntranetRX	Integer	Data traffic received by the ECS instance, measured in:kbits
IntranetTX	Integer	Data traffic sent by the ECS instance, measured in:kbits
IntranetBandwidth	Integer	Bandwidth of the ECS instance (network traffic per unit time), measured in kbits/s
IOPSRead	Integer	System disk IO reads, measured in: times/s
IOPSWrite	Integer	System disk IO writes, measured in: times/s
BPSRead	Integer	System disk read bandwidth, measured in:Byte/s
BPSWrite	Integer	System disk write bandwidth, measured in:Byte/s
TimeStamp	String	Time point of the traffic query, which is presented according to ISO8601, and UTC time is used. Format: YYYY-MM-DDThh:mmZ

## InstanceStatusItemType

### *Description*

Type of the instance status.

### *Node Name*

InstanceStatus

### *Subnode*

Name	Type	Description
InstanceId	String	ID of the instance
Status	String	Status of the instance

# InstanceStatusSetType

## Description

Set of instance status items.

## Node Name

InstanceStatuses

## Subnode

Name	Type	Description
InstanceStatus	InstanceStatusItemType	A set of InstanceStatusItemType

# OperationLocksType

## Description

Type of the reason why a resource is locked

## Node Name

OperationLock

## Subnode

Name	Type	Description
LockReason	String	Lock reason <ul style="list-style-type: none"><li>- financial: locked because the account is in arrears</li><li>- security: locked for</li></ul>

		security reasons
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## InstanceTypeItemType

### *Description*

Type of an instance type item.

### *Node Name*

InstanceType

### *Subnode*

Name	Type	Description
InstanceTypeId	String	ID of the instance type
CpuCoreCount	Integer	Number of CPU cores
MemorySize	Double	Size of memory, measured in GB
InstanceTypeFamily	String	The instance type family

## IpAddressSetType

### *Description*

Set of IP addresses.

### *Node Name*

Depends on the interface

## *Subnode*

Name	Type	Description
IpAddress	String	IP address

# PermissionSetType

## *Description*

Type of a set of security group rules.

## *Node Name*

Permissions

## *Subnode*

Name	Type	Description
Permission	PermissionType	Security group PermissionType

# PermissionType

## *Description*

Type of a security group rule.

## *Node Name*

Permission

## *Subnode*

Name	Type	Description
------	------	-------------

IpProtocol	String	IP protocol
PortRange	String	Port range
SourceCidrIp	String	Source IP address segment for ingress authorization
SourceGroupId	String	Source security group for ingress authorization
SourceGroupOwnerAccount	String	Aliyun account of the source security group
DestCidrIp	String	Target IP address segment for egress authorization
DestGroupId	String	Target security group for egress authorization
DestGroupOwnerAccount	String	Aliyun account of the target security group
Policy	String	Authorization policy
NicType	String	Network type
Priority	String	Rule priority
Direction	String	Authorization direction
Description	String	Description

## RegionType

### *Description*

Type of region information.

### *Node Name*

Region

### *Subnode*

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

# AvailableResourceCreationType

## *Description*

Type of resources that can be created.

## *Node Name*

Depends on the interface.

## *Subnode*

Name	Type	Description
ResourceTypes	String	Resource type, with the following values: <ul style="list-style-type: none"><li>- Instance: allows creation of instances</li><li>- Disk: allows creation of disks</li><li>- VSwitch: allows creation of VPCs</li></ul>

# AvailableDiskCategoriesType

## *Description*

Supported disk categories.

## *Node Name*

Depends on the interface.

## Subnode

Name	Type	Description
DiskCategories	String	Disk category <ul style="list-style-type: none"> <li>- cloud: allows creation of basic cloud disks and independent basic cloud disks</li> <li>- ephemeral: allows creation of ephemeral disks</li> <li>- ephemeral_ssd: allows creation of ephemeral SSDs</li> </ul>

## ZoneType

### Description

Type of zone information

### Node Name

Zone

## Subnode

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

	e	
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## ClusterType

### *Description*

Type of cluster information

### *Node Name*

Cluster

### *Subnode*

Name	Type	Description
ClusterId	String	Cluster ID

## SnapshotType

### *Description*

Data type of snapshot details.

### *Node Name*

Depends on the interface

### *Subnode*

Name	Type	Description
SnapshotId	String	Snapshot ID
SnapshotName	String	Display name of the snapshot. It is returned if a display name is specified at the creation



Description	String	Description
Progress	String	Progress of snapshot creation, presented in percentage
SourceDiskId	String	Source disk ID, which is retained after the source disk of the snapshot is deleted
SourceDiskSize	Integer	Size of the source disk, measured in GB.
SourceDiskType	String	Source disk attribute, its value can be System or Data
ProductCode	String	Product code on the image market place
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

## SecurityGroupIdSetType

### *Description*

Type of a security group ID.

### *Node Name*

SecurityGroupIds

### *Subnode*

Name	Type	Description
SecurityGroupId	String	ID of the security group

## SecurityGroupSetType

### *Description*

Type of a security group set.

## *Node Name*

SecurityGroups

## *Subnode*

Name	Type	Description
SecurityGroup	SecurityGroupItemType	Security group SecurityGroupItemType

# SecurityGroupItemType

## *Description*

Type of a security group set.

## *Node Name*

SecurityGroups

## *Subnode*

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

# IpRangeSetType

## Description

Type of an IP address segment set.

## Node Name

IpRanges

## Subnode

Name	Type	Description
IpAddress	String	IP address range specified in CIDR format.
NicType	String	Network type, which can be internet and intranet

# AutoSnapshotPolicyType

## Description

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

## Node Name

Depends on the interface

## Subnode

Name	Type	Description
SystemDiskPolicyEnabled	String	Whether the automatic snapshot policy is enabled for system disks:

		<ul style="list-style-type: none"> <li>- true: Automatic snapshots are created for disks of this category</li> <li>- false: Automatic snapshots are not created</li> </ul>
SystemDiskPolicyTimePeriod	Integer	<p>Time period of the automatic snapshot policy for system disks</p> <p>Four periods:</p> <ul style="list-style-type: none"> <li>- 1:1:00-7:00</li> <li>- 2:7:00-13:00</li> <li>- 3:13:00-19:00</li> <li>- 4:19:00-1:00</li> </ul>
SystemDiskPolicyRetentionDays	Integer	<p>Retention period of the automatic snapshots of system disks</p> <p>Available options are: 1, 2, and 3</p>
SystemDiskPolicyRetentionLastWeek	String	<p>Whether the system disk automatic snapshot of the last week is retained:</p> <ul style="list-style-type: none"> <li>- true: The snapshot of the last week is retained</li> <li>- false: The snapshot of the last week is not retained</li> </ul>
DataDiskPolicyEnabled	String	<p>Whether the automatic snapshot policy is enabled for data disks:</p> <ul style="list-style-type: none"> <li>- true: Automatic snapshots are created for disks of this category</li> <li>- false: Automatic snapshots are not created</li> </ul>
DataDiskPolicyTimePeriod	Integer	<p>Time period of the automatic snapshot policy for data disks</p> <p>Four periods:</p> <ul style="list-style-type: none"> <li>- 1:1:00-7:00</li> <li>- 2:7:00-13:00</li> <li>- 3:13:00-19:00</li> <li>- 4:19:00-1:00</li> </ul>

DataDiskPolicyRetentionDays	Integer	Retention period of the automatic snapshots of data disks Available options are: 1, 2, and 3
DataDiskPolicyRetentionLastWeek	String	Whether the data disk automatic snapshot of the last week is retained: <ul style="list-style-type: none"> <li>- true: The snapshot of the last week is retained</li> <li>- false: The snapshot of the last week is not retained</li> </ul>

## AutoSnapshotExecutionStatusType

### *Description*

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

### *Node Name*

Depends on the interface

### *Subnode*

Name	Type	Description
SystemDiskExecutionStatus	String	Return the status of the last execution: Standby Executed Failed <ul style="list-style-type: none"> <li>- Standby: The setting has just been finished and the execution has not yet started, or the automatic snapshot policy for system disks is disabled</li> <li>- Executed: Execution succeeded</li> <li>- Failed: Execution failed</li> </ul>

DataDiskExecutionStatus	String	<p>Return the status of the last execution: Standby Executed Failed</p> <ul style="list-style-type: none"> <li>- Standby: The setting has just been finished and the execution has not yet started, or the automatic snapshot policy for data disks is disabled</li> <li>- Executed: Execution succeeded</li> <li>- Failed: Execution failed</li> </ul>
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## DiskDeviceMapping

### *Description*

Describe the relation between images and snapshots.

### *Node Name*

Depends on the interface

### *Subnode*

Name	Type	Description
SnapshotId	String	Snapshot ID
Size	String	Size of the created disk
Device	String	Device information of the created disk: such as /dev/xvdb

## VpcSetType

## Description

Set of VPC information.

## Node Name

Depends on the interface

## Subnode

Name	Type	Description
VpcId	String	VpcId
RegionId	String	Region of the VPC
Status	String	Status of the VPC, including Pending and Available
VpcName	String	The name of the VPC is null by default. It can be a string of [2, 128] English or Chinese characters and must begin with an uppercase/lowercase letter or Chinese character. It can contain numerals, "_" and "-". This value will appear on the console. It cannot begin with http:// or https://.
VSwitchIds	String	List of VSwitchIds
CidrBlock	String	Network segment address of the VPC
VRouterId	String	ID of the VRouter
Description	String	The description is null by default. It can be a string of [2, 256] English or Chinese characters. It cannot begin with http:// or https://.
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

# VRouterSetType

## Description

Set of VRouter information.

## Node Name

Depends on the interface

## Subnode

Name	Type	Description
VRouterId	String	ID of the VRouter
RegionId	String	ID of the region
VpcId	String	ID of the VPC
RouteTableIds	String	List of virtual routing table IDs
VRouterName	String	Name of the VRouter
Description	String	The description of the VRouter is null by default. It can be a string of [2, 256] English or Chinese characters. It cannot begin with http:// or https://.
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

# RouteTableSetType

## Description

Set of routing tables.



## Node Name

Depends on the interface

## Subnode

Name	Type	Description
VRouterId	String	ID of the VRouter
RouteTableId	String	ID of the routing table
RouteEntrys	RouteEntrySetType	A set of route entry details RouteEntrySetType
RouteTableType	String	Type of the routing table, which can be System or Custom
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

# RouteEntrySetType

## Description

Set of route entries.

## Node Name

Depends on the interface

## Subnode

Name	Type	Description
RouteTableId	String	VRouter where the route entry is defined
DestinationCidrBlock	String	Destination network segment address
Type	String	Route type, (System   Custom)

NextHopId	String	ID of the next-hop instance
Status	String	Route entry status, Pending   Available   Modifying

## VSwitchSetType

### *Description*

Set of VSwitch information.

### *Node Name*

Depends on the interface

### *Subnode*

Name	Type	Description
VSwitchId	String	ID of the VSwitch
VpcId	String	ID of the VPC to which the VSwitch belongs
Status	String	Status of the VSwitch, including Pending and Available
CidrBlock	String	Address of the VSwitch
ZoneId	String	ID of the zone to which the VSwitch belongs
AvailableIpAddressCount	Integer	Quantity of IP addresses available for the VSwitch
Description	String	The description is null by default. It can be a string of [2, 256] English or Chinese characters. It cannot begin with http:// or https://.
VSwitchName	String	The name of the VSwitch is null by default. It can be a string of [2, 128] English or Chinese characters and must begin with an uppercase/lowercase letter or Chinese character. It can contain numerals, "_" and "-". This value will appear on the console.It

		cannot begin with http:// or https://.
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

## EipAddressAssociateType

### *Description*

Type of EIP binding information

### *Node Name*

Depends on the interface

### *Subnode*

Name	Type	Description
AllocationId	String	Instance ID of the ECS with EIP
IpAddress	String	EIP
Bandwidth	Integer	Internet bandwidth limit for the EIP. It is 5Mbps by default
InternetChargeType	String	Charge type for the EIP.

## EipAddressSetType

### *Description*

Set of EIP information

## Node Name

Depends on the interface

## Subnode

Name	Type	Description
RegionId	String	Region of the ECS with EIP
IpAddress	String	EIP
AllocationId	String	Instance ID of the EIP
Status	String	Current status of the EIP, which can be Associating, Unassociating, InUse, or Available
InstanceId	String	Instance currently bound to the EIP. It is null if no instance is bound.
Bandwidth	Integer	Internet bandwidth limit for the EIP. It is 5Mbps by default
InternetChargeType	String	Charge type for the EIP.
OperationLocks	OperationLocksType	Array of LockReason strings. It has no subnode if no lock is active.
AllocationTime	String	Time of allocation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

## InstanceAttributesType

### Description

ECS instance attributes.

### Node Name

Depends on the interface

## Subnode

Name	Type	Description
InstanceId	String	ID of the instance
InstanceName	String	Display name of the instance
Description	String	Description of the instance
ImageId	String	ID of the image
RegionId	String	ID of the region to which the instance belongs
ZoneId	String	ID of the zone to which the instance belongs
InstanceType	String	Type of the instance
HostName	String	Host name of the instance
Status	String	Status of the instance
SecurityGroupIds	SecurityGroupIdSetType	SecurityGroupIdSetType, a set of security groups to which the instance belongs.
PublicIpAddress	IpAddressSetType	Public IP address of the instance. See IpAddressSetType
InternetMaxBandwidthIn	Integer	Maximum incoming bandwidth from the public network
InternetMaxBandwidthOut	Integer	Maximum outgoing bandwidth to the public network
InternetChargeType	String	Internet charge type, which can be PayByBandwidth or PayByTraffic. The value is "PayByBandwidth" for a prepaid instance. <ul style="list-style-type: none"> <li>- PayByTraffic: pay by traffic</li> <li>- PayByBandwidth: pay by bandwidth</li> </ul>
CreationTime	String	Time of creation. It is represented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ
VpcAttributes	VpcAttributesType	VpcAttributesType
EipAddress	EipAddressAssociateType	EipAddressAssociateType
InstanceNetworkType	String	Network type of the instance,

		which can be Classic or VPC
OperationLocks	OperationLocksType	Lock list
InstanceTypeFamily	String	The instance type family

## VpcAttributesType

### *Description*

VPC related attributes of an ECS instance

### *Node Name*

Depends on the interface

### *Subnode*

Name	Type	Description
VpcId	String	ID of the VPC
VSwitchId	String	ID of the VSwitch
PrivateIpAddress	IpAddressSetType	IpAddressSetType
NatIpAddress	String	IP address of the Aliyun product, for interworking between Aliyun products

## EipMonitorDataType

### *Description*

Type of EIP monitoring data.

### *Node Name*

Depends on the interface

## *Subnode*

Name	Type	Description
EipRX	Integer	Data traffic received at the EIP within a period of time, measured in: Bytes.
EipTX	Integer	Data traffic sent from the EIP within a period of time, measured in: Bytes.
EipFlow	Integer	Network traffic at the EIP within a period of time, measured in bytes.
EipBandwidth	Integer	Bandwidth of the EIP (network traffic per unit time), measured in bytes/s.
EipPackets	Integer	Total packets received and sent by the EIP within a period of time.
TimeStamp	String	Time point of the traffic query, which is presented according to ISO8601, and UTC time is used. Supported format: YYYY-MM-DDThh:mmZ

# DiskMonitorDataType

## *Description*

Type of disk monitoring data.

## *Node Name*

DiskMonitorData

## *Subnode*

Name	Type	Description
DiskId	String	ID of the disk

IOPSRead	Integer	Disk IO reads, measured in: times/s
IOPSWrite	Integer	Disk IO writes, measured in: times/s
IOPSTotal	Integer	Total disk IO read and write operations, measured in: times/s
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
TimeStamp	String	Time point of the query, which is presented according to ISO8601, and UTC time is used. Format: YYYY-MM-DDThh:mmZ

## AccountType

### *Description*

Type of Aliyun account ID information.

### *Node Name*

Account

### *Subnode*

Name	Type	Description
AliyunId	String	Aliyun account ID

## ShareGroupType



## *Description*

Type of a shared group

## *Node Name*

ShareGroup

## *Subnode*

Name	Type	Description
Group	String	Shared group

# AvailableInstanceTypesType

## Description

The supported instance types.

## Node Name

Depends on the interface.

## Subnode

Name	Type	Description
InstanceTypes	Array	The instance types

# InstanceTypeFamilyItemType

## Description

The type of an instance type family item.

## Node Name

InstanceTypeFamily

## Subnode

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

# Appendix

## Instance type table

- ✓ shows the disks for the purchase type supported by the instance corresponding to the specification.
- X indicates not supported

### Generation II

All Generation II instances are I/O optimized. The following types of clouds are supported.

- SSD Cloud Disks
- Ultra Cloud Disks

Instance type family	Instance type	CPU ( Core )	Memory ( GB )
ecs.n1 ( General Type N1 )	ecs.n1.tiny	1	1
	ecs.n1.small	1	2
	ecs.n1.medium	2	4
	ecs.n1.large	4	8
	ecs.n1.xlarge	8	16

	ecs.n1.3xlarge	16	32
	ecs.n1.7xlarge	32	64
ecs.n2 ( General Type N2 )	ecs.n2.small	1	4
	ecs.n2.medium	2	8
	ecs.n2.large	4	16
	ecs.n2.xlarge	8	32
	ecs.n2.3xlarge	16	64
	ecs.n2.7xlarge	32	128
ecs.e3 ( Memory type E3 )	ecs.e3.small	1	8
	ecs.e3.medium	2	16
	ecs.e3.large	4	32
	ecs.e3.xlarge	8	64
	ecs.e3.3xlarge	16	128

## Generation I

### Not I/O Optimized.

The types in the following table are not I/O optimized. The following types of clouds are supported.

- SSD Cloud Disks
- Ultra Cloud Disks

Instance classification	Instance Type Code	CPU (Core)	Memory (GB)	Basic Cloud Disk	Ephemeral Disk	Ephemeral SSD
Tiny	ecs.t1.small	1	1	√	√	X
Standard	ecs.s1.small	1	2	√	√	X
	ecs.s1.medium	1	4	√	√	X
	ecs.s1.large	1	8	√	√	X
	ecs.s2.small	2	2	√	√	X
	ecs.s2.large	2	4	√	√	√
	ecs.s2.xlarge	2	8	√	√	√

	ecs.s2.2xlarge	2	16	√	√	√
	ecs.s3.medium	4	4	√	√	√
	ecs.s3.large	4	8	√	√	√
High Memory	ecs.m1.medium	4	16	√	√	√
	ecs.m2.medium	4	32	√	√	√
	ecs.m1.xlarge	8	32	√	√	√
High CPU	ecs.c1.small	8	8	√	√	√
	ecs.c1.large	8	16	√	√	√
	ecs.c2.medium	16	16	√	√	√
	ecs.c2.large	16	32	√	√	√
	ecs.c2.xlarge	16	64	√	√	√

For service restriction details, please see [ECS API Product and Business Restrictions](#)

## I/O Optimized

The following types of clouds are supported.

- SSD Cloud Disks
- Ultra Cloud Disks

Instance type	Instance type code	CPU ( Core )	Memory ( GB )
Standard	ecs.s2.large	2	4
	ecs.s2.xlarge	2	8
	ecs.s2.2xlarge	2	16
	ecs.s3.medium	4	4
	ecs.s3.large	4	8
High Memory	ecs.m1.medium	4	16
	ecs.m2.medium	4	32
	ecs.m1.xlarge	8	32

High CPU	ecs.c1.small	8	8
	ecs.c1.large	8	16
	ecs.c2.medium	16	16
	ecs.c2.large	16	32
	ecs.c2.xlarge	16	64

Disk Space (G)	5G - 2000G, in 1G intervals. A single instance may not have more than 5 disk devices (including system disks)
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## Error Code Table

### Client Errors

For details, refer to the error codes of each interface

### Server Errors

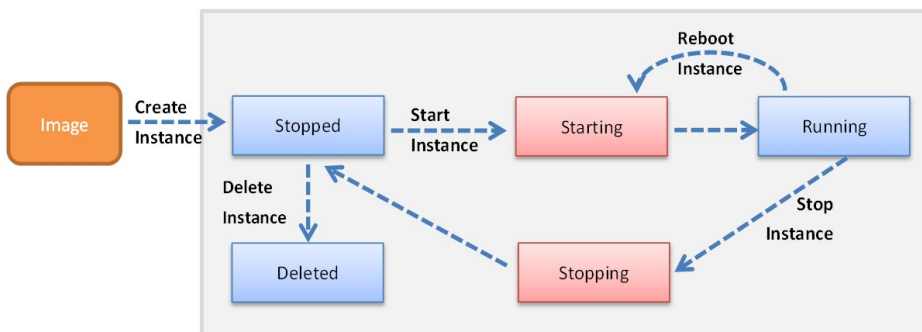
Error Code	Description	Http Status Code	Meaning
ServiceUnavailable	The request has failed due to a temporary failure of the server.	503	The service is unavailable
InternalError	The request processing has failed due to some unknown error, exception or failure.	500	Internal error

## Instance Status Table

Status Name	Status Description
Stopped	Stopped

Starting	Starting
Running	Running
Stopping	Stopping
Deleted	Deleted

## Instance Status Chart

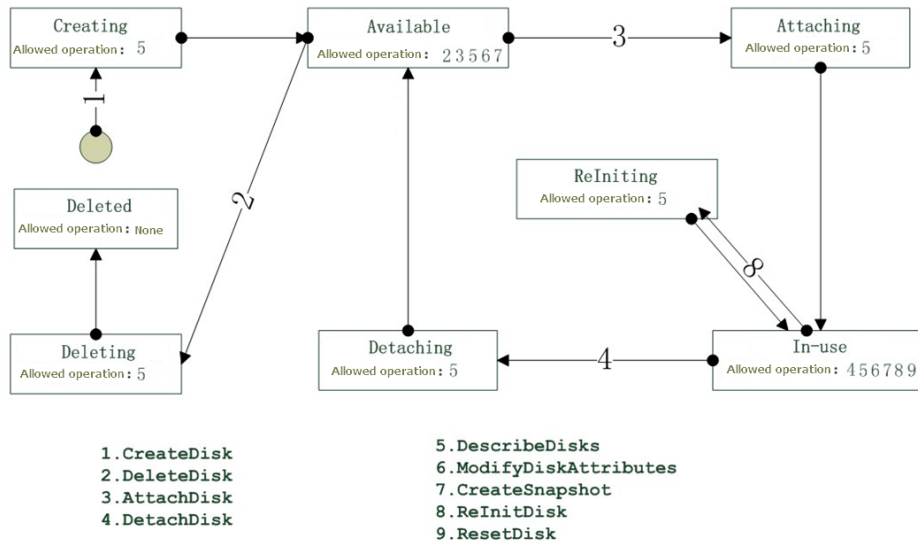


## Basic Cloud Disk Status Table

Error Code	Description
In_use	In use
Available	Available to be attached
Attaching	Attaching
Detaching	Detaching
Creating	Creating
Deleting	Deleting
Deleted	Deleted
ReIniting	Initializing

The disks in 'Deleting' or 'Deleted' status cannot be queried using 'DescribeDisks'. These two statuses are internal statuses.

# Basic Cloud Disk Status Chart



## Disk Category Table

Disk Category	Category	Maximum Capacity Per Disk	Number of Data Disks Attached Per Instance	Maximum Capacity of Disks of the Same Category Per Instance
Basic cloud disk	cloud	2000GB	4	8000GB(4×2000)
Ephemeral SSD	ephemeral_ssd	800GB	4	1024GB (excluding the system disk)

## How to Call Interfaces

The ECS service interface is called by sending an HTTP request to the ECS server (you can send it through the HTTP or HTTPS channel) and receiving the ECS server's response to this request. After the ECS server receives a user request, it will perform necessary authentication and parameter verification on the request. After all verifications are successful, it submits or completes the associated operation based on the parameters specified for the request. Then, it returns the processing results to the caller in the form of an HTTP response.

## Request Composition

Requests are composed of the following parts:

**HTTP method** - Currently, all ECS service interfaces only support GET method calls.

**Request URL** - The request's service address, name of the operation to be executed, operation parameters, and public request parameters are included in the request URL.

**Server address:** The ECS service domain names are 'http://ecs.aliyuncs.com/' and 'https://ecs.aliyuncs.com/'. In order to ensure the security of the request, we strongly recommend that you use the HTTPS channel. (HTTPS has added the SSL layer for encrypted communication and can prevent communication interception leading to the leakage of sensitive information. )

**Operation name:** Each interface requires that the name of the operation to be executed be specified, i.e. the Action parameter.

**Operation parameter:** Different operation parameters must be set for different operations to be executed. For details, see the instructions for each interface.

**Public request parameters:** Parameters such as TimeStamp and Signature must be included in each request.

For the server to correctly authenticate the user's identity and authorize request execution, the request must be signed before submission for processing. For signature rules, refer to the signature mechanism section.

After the server finishes processing the request, it will return the response results. Response results are categorized into successful results and error messages. For an illustration of the format, refer to the Returned Results section. The client can parse the response message body to obtain the execution results.

## Call Example

Taking the 'DescribeRegions' interface for example:

The corresponding Action is 'DescribeRegions', and the required operation parameter is 'RegionId' (in ECS, all RegionIds can be obtained using the interface for querying the available region list). After adding all the public request parameters (except 'Signature'), the request URL will be (for ease of reading, this is the URL before URL encoding):

```
http://ecs.aliyuncs.com/?TimeStamp=2012-12-26T10:33:56Z&Format=XML&AccessKeyId=testid&Action=DescribeRegions&SignatureMethod=HMAC-SHA1&SignatureNonce=NwDAxvLU6tFE0DVb&Version=2014-05-26&SignatureVersion=1.0
```

According to the signature calculation rules, the Canonicalized Query String is constructed first, as shown below:



```
http://ecs.aliyuncs.com/?TimeStamp=2012-12-26T10:33:56Z&Format=XML&AccessKeyId=testid&Action=DescribeRegions&SignatureMethod=HMAC-SHA1&SignatureNonce=NwDaxvLU6tFE0DVb&Version=2014-05-26&SignatureVersion=1.0
```

Then, 'StringToSign' is constructed as a signature string with a value:

```
GET&%2F&AccessKeyId%3Dtestid%26Action%3DDescribeRegions%26Format%3DXML%26SignatureMethod%3DHMAC-SHA1%26SignatureNonce%3DNwDaxvLU6tFE0DVb%26SignatureVersion%3D1.0%26TimeStamp%3D2012-12-26T10%253A33%253A56Z%26Version%3D2014-05-26
```

The following Java sample code demonstrates how public request parameters are added, how the Canonicalized Query String is constructed from the request parameters, and how the 'StringToSign' is constructed. This example assumes that all request parameters are placed in a `Map<String, String>` object and the Access Key ID is "testid".

```
final String HTTP_METHOD = "GET";

Map<String, String> parameters = new HashMap<String, String>();
// Add public 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");
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 = "&";

// Generate the stringToSign
StringBuilder stringToSign = new StringBuilder();
stringToSign.append(HTTP_METHOD).append(SEPARATOR);
stringToSign.append(percentEncode("/")).append(SEPARATOR);

StringBuilder canonicalizedQueryString = new StringBuilder();
for(String key : sortedKeys) {
    // Be sure to encode the key and value
    canonicalizedQueryString.append("&")
        .append(percentEncode(key)).append("=")
        .append(percentEncode(parameters.get(key)));
}

// Be sure to encode the canonicalizedQueryString
stringToSign.append(percentEncode(
    canonicalizedQueryString.toString().substring(1)));
```

In this example, please note that the 'TimeStamp' parameter must comply with the ISO8601 norms. Furthermore, please note that UTC time is used. Otherwise, the request will encounter an error. The following sample code demonstrates how a compliant TimeStamp string is generated:

```
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);
}
```

When generating a Canonicalized Query String (the canonicalizedQueryString variable in the example) and 'StringToSign', both must be encoded. The encoding rules are described in detail in the signature mechanism section. The following sample code demonstrates how the java.net.URLEncoder class is used to complete encoding:

```
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;
}
```

If we assume the "Access Key ID" is "testid", the "Access Key Secret" is "testsecret", and the Key used for HMAC calculation is "testsecret&", the calculated signature value is:

```
SDFQNvyH5rtkc9T5Fwo8DOjw5hc=
```

Sample code for signature calculation (Java):

```
// The following is a sample code for signature calculation
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, please perform URL encoding according to the RFC3986 rules and obtain

```
http://ecs.aliyuncs.com/?TimeStamp=2012-12-26T10%3A33%3A56Z&Format=XML&AccessKeyId=testid&Action=DescribeRegions&SignatureMethod=HMAC-SHA1&RegionId=region1&SignatureNonce=NwDAxvLU6tFE0DVb&Version=2012-09-13&SignatureVersion=1.0&Signature=SDFQNvyH5rtkc9T5Fwo8DOjw5hc%3d
```

Next, send an HTTP request to the above URL and receive a response to the request from the ECS server, as shown below:

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

By parsing this XML output, you can obtain an ID and LocalName list for all available regions. If, when submitting a request, the specified Format parameter is JSON, and then the result will also be returned in the JSON format.

## How to Ensure Idempotence

If a request timeout or internal server error is encountered when calling the CreateInstance interface to create an ECS in the ECS, the client might try to resend the request. At this time, the client can prevent the server from creating more instances than expected by providing the optional 'ClientToken' parameter. Providing this parameter will also ensure the idempotence of the request. 'ClientToken' is a unique, case sensitive string generated by the client that cannot exceed 64 ASCII characters.

If a user uses the same 'ClientToken' value to call the CreateInstance interface, the server will return identical request results, including the same 'InstanceId'. Therefore, when the user encounters an error and tries again, providing the same 'ClientToken' value can ensure that the ECS creates only one instance and obtains this 'InstanceId'.

If the user provides a 'ClientToken' that has already been used, but with different request parameters, the ECS will return the 'IdempotentParameterMismatch' error code. However, you must note that the 'SignatureNonce', 'TimeStamp', and 'Signature' parameters must be changed when trying to submit the request again. Because the ECS uses 'SignatureNonce' to prevent replay attacks and 'TimeStamp' to mark the time of each request, the duplicate request must provide different 'SignatureNonce' and 'TimeStamp' parameter values. This will also produce a different 'Signature' value.

Generally, clients will only need to retry an operation if they encounter a 500 ('InternalError') or 503 ('ServiceUnAvailable') error or cannot receive a response. When 200 is returned, retrying the operation will give you the same results as the last time, but will not have any effect on the server

status. When a 4xx error code is returned, unless the message explicitly says "try it later", retrying the operation will usually not be successful.

# API behavior for accounts in arrears

In the following list, "-" indicates no relation and "Normal Logic" indicates that the interface is executed and result returned based on the interface's normal logic.

When payment is overdue, the 'OperationLocks' in the outgoing parameters returned by the 'DescribeInstanceAttribute' or 'DescribeDisks' will include 'LockReason: financial'.

## *Instance in arrears*

Interface	Disk Payment Overdue	Disk Normal
AllocatePublicIpAddress	Error	Error
AttachDisk	Error	Normal logic
AuthorizeSecurityGroup	Normal logic	Normal logic
CreateDisk	Error	Normal logic
CreateImage	Normal logic	Normal logic
CreateInstance	Error	Error
CreateSecurityGroup	Normal logic	Normal logic
CreateSnapshot	Normal logic	Normal logic
DeleteDisk	Normal logic	Normal logic
DeleteImage	Normal logic	Normal logic
DeleteInstance	Normal logic	Normal logic
DeleteSecurityGroup	Normal logic	Normal logic
DeleteSnapshot	Normal logic	Normal logic
DescribeAutoSnapshotPolicy	Normal logic	Normal logic
DescribeDisks	Normal logic	Normal logic
DescribeImages	Normal logic	Normal logic
DescribeInstanceAttribute	Normal logic	Normal logic
DescribeInstanceStatus	Normal logic	Normal logic
DescribeInstanceTypes	Normal Logic	Normal Logic
DescribeInstanceMonitorData	Normal logic	Normal logic
DescribeRegions	Normal logic	Normal logic
DescribeSecurityGroupAttrib	Normal logic	Normal logic

ute		
DescribeSecurityGroups	Normal logic	Normal logic
DescribeSnapshotAttribute	Normal logic	Normal logic
DescribeSnapshots	Normal logic	Normal logic
DescribeZones	Normal logic	Normal logic
DetachDisk	Normal logic	Normal logic
JoinSecurityGroup	Normal logic	Normal logic
LeaveSecurityGroup	Normal logic	Normal logic
ModifyAutoSnapshotPolicy	Normal logic	Normal logic
ModifyDiskAttribute	Normal logic	Normal logic
ModifyInstanceAttribute	Normal logic	Normal logic
RebootInstance	-	-
ReInitDisk	Error	Error
ReplaceSystemDisk	Error	Error
ResetDisk	Error	Error
RevokeSecurityGroup	Normal logic	Normal logic
StartInstance	Error	Error
StopInstance	-	-

## *Disk in arrears*

<b>Interface</b>	<b>Instance Payment Overdue</b>	<b>Instance Normal</b>
AllocatePublicIpAddress	Error	Normal logic
AttachDisk	Error	Error
AuthorizeSecurityGroup	Normal logic	Normal logic
CreateDisk	Error	Error
CreateImage	Normal logic	Normal logic
CreateInstance	Error	Normal logic
CreateSecurityGroup	Normal logic	Normal logic
CreateSnapshot	Normal logic	Normal logic
DeleteDisk	Normal logic	Normal logic
DeleteImage	Normal logic	Normal logic
DeleteInstance	Normal logic	Normal logic

DeleteSecurityGroup	Normal logic	Normal logic
DeleteSnapshot	Normal logic	Normal logic
DescribeAutoSnapshotPolicy	Normal logic	Normal logic
DescribeDisks	Normal logic	Normal logic
DescribeImages	Normal logic	Normal logic
DescribeInstanceAttribute	Normal logic	Normal logic
DescribeInstanceStatus	Normal logic	Normal logic
DescribeInstanceMonitorData	Normal logic	Normal logic
DescribeRegions	Normal logic	Normal logic
DescribeSecurityGroupAttribute	Normal logic	Normal logic
DescribeSecurityGroups	Normal logic	Normal logic
DescribeSnapshotAttribute	Normal logic	Normal logic
DescribeSnapshots	Normal logic	Normal logic
DescribeZones	Normal logic	Normal logic
DetachDisk	Normal logic	Normal logic
JoinSecurityGroup	Normal logic	Normal logic
LeaveSecurityGroup	Normal logic	Normal logic
ModifyAutoSnapshotPolicy	Normal logic	Normal logic
ModifyDiskAttribute	Normal logic	Normal logic
ModifyInstanceAttribute	Error	Normal logic
ModifyInstanceSpec	Error	Normal logic
RebootInstance	-	-
ReInitDisk	Error	Normal logic
ReplaceSystemDisk	Error	Normal logic
ResetDisk	Error	Error
RevokeSecurityGroup	Normal logic	Normal logic
StartInstance	Error	Normal logic
StopInstance	-	-

# API behavior when an instance is locked for security reasons

Note that, disk-related activities in the 'In\_use' status reference the instance 'OperationLocks'. Otherwise, the instance 'OperationLocks' may be ignored.

When a security lock is indicated, the 'OperationLocks' in the outgoing parameters returned by the 'DescribeInstanceAttribute' will include 'LockReason: security'.

Interface	Activity
AllocatePublicIpAddress	Error
AttachDisk	Error
AuthorizeSecurityGroup	Normal logic
CreateDisk	Normal logic
CreateImage	Normal logic
CreateInstance	-
CreateSecurityGroup	Normal logic
CreateSnapshot	Error (Only for disks attached on this instance in the In_use status)
DeleteDisk	Normal logic
DeleteImage	Normal logic
DeleteInstance	Normal logic
DeleteSecurityGroup	Normal logic
DeleteSnapshot	Normal logic
DescribeAutoSnapshotPolicy	Normal logic
DescribeDisks	Normal logic
DescribeImages	Normal logic
DescribeInstanceAttribute	Normal logic
DescribeInstanceStatus	Normal logic
DescribeInstanceTypes	Normal Logic
DescribeInstanceMonitorData	Normal logic
DescribeRegions	Normal logic
DescribeSecurityGroupAttribute	Normal logic
DescribeSecurityGroups	Normal logic

DescribeSnapshotAttribute	Normal logic
DescribeSnapshots	Normal logic
DescribeZones	Normal logic
DetachDisk	Error
JoinSecurityGroup	Error
LeaveSecurityGroup	Error
ModifyAutoSnapshotPolicy	Normal logic
ModifyDiskAttribute	Normal logic
ModifyInstanceAttribute	Error
RebootInstance	Error
ReInitDisk	Error (In_use), Normal Logic (another status)
ReplaceSystemDisk	Normal logic
ResetDisk	Error
RevokeSecurityGroup	Normal logic
StartInstance	Error
StopInstance	Error

## Time Format ISO8601

ISO 8601 Data elements and interchange formats – Information interchange – Representation of dates and times is an international standard issued by ISO. ECS Open API adopts ISO8601 time format. For details, please refer to [ISO8601](#).